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ANIMAL INDUSTRY DIVISION

Alberta
AGRICULTURE

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ANIMAL INDUSTRY DIVISION

ANNUAL REPORT

APRIL 1988 - MARCH 1989

ALBERTA AGRICULTURE

#204, 7000 - 113 Street
Edmonton, Alberta
T6H 5T6

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ANIMAL INDUSTRY DIVISION

The Animal Industry Division is made up of seven branches: Beef Cattle and Sheep, Dairy Production, Dairy Processing, Horse Industry and Feeder Associations, Pork Industry, Poultry, and Regulatory Services.

The Division also administered the Alberta Crow Benefit Offset Program which has the objective of offsetting the distortion in feed grain prices in Alberta created by the payment of the federal Crow benefit to the railroads.

Due to severe drought conditions in a large portion of the province in 1988, the Division was involved in the setting up and administration of the Canada/Alberta Drought Assistance Program. The program provided financial assistance to livestock producers to assist in the procurement of forage supplies to reduce the need of reduction of breeding herds due to the drought.

The activities of the Division, as noted in the individual branch reports, included extending technical information to producers and agri-business involved in the production and marketing of meat and dairy producing animals and poultry. The Division administered a number of acts and regulations involved in livestock and dairy production. This legislation was amended to conform with industry changes and needs.

The Division remained involved in the safety net programs for livestock producers and contributed considerable support and resource to the national tripartite red meat stabilization program administered under centralized program support.

BEEF CATTLE AND SHEEP BRANCH

I. INDUSTRY OVERVIEW

A. Beef Cattle

The provincial herd continued into the third year of expansion in the current beef cattle cycle. Cows and heifers kept for breeding numbered 1.585 million at January 1, 1989. This represented an increase of 3.6% from the same date in 1988. The increase in the breeding herd in 1988 was tempered by the serious drought in the southern and eastern parts of the province which resulted in heavy cow slaughter in the second and fourth quarters. The heavy cow marketings in the second quarter were largely the result of the drought which severely reduced available spring grazing; while the high fourth quarter marketings resulted from lower than normal conception rates in the breeding season. The increase in cow slaughter in Alberta was in sharp contrast to a ten percent decrease in cow slaughter nationally as beef producers in the non-drought affected parts of the country accelerated the rebuilding of their herds.

Fed cattle prices opened the year in the range of $77.00 to $79.00 per hundred pounds of live weight. Early in February, prices advanced to over $80.00, peaking at over $89.00 in early April and falling to below $80.00 again by mid-June. Except for the months of October and November, when prices again rose to the low $80.00 range, fat cattle prices remained in the high seventy dollar range for the remainder of the year. Weighted average prices for finished steers for 1988 were $78.39 compared with $79.68 in 1987. The price fluctuations during the year, increasing feed prices,

a shortage of feeder cattle and the increasing value of the Canadian dollar, resulted in stabilization payments of $37.51 per head in the first quarter, $42.45 in the second quarter, $100.95 in the third quarter, and $87.92 in the fourth quarter of 1988.

Prices for feeder cattle were influenced by both the price of finished cattle and the price of feed in 1988. Heavy feeder cattle prices were more influenced by the price patterns of finished cattle through the year. 1988 weighted average prices for heavy feeder steers was $91.39 per hundred weight compared with $92.80 for 1987.

Light feeders, requiring larger amounts of grain to reach finished weight, also reflected the increase in feed prices through the year. Early in the year, feed grain prices were in the range of $55.00 to $70.00 per tonne. These very low feed costs were reflected in prices for light feeder steers in the range of $120.00 to $130.00 per hundred weight live. Beginning in April of 1988, feed grain prices began to rise with the anticipation of lower yields caused by the prairie drought. By the end of the year, barley prices were in the range of $110.00 to $120.00 per tonne. These higher feed costs had the effect of lowering the margin which feeders could pay for light calves, and prices fell to the range of $100.00 to $110.00 per hundred weight in the October to December period. As a result of high prives early in the year, 1988 weighted average prices for light feeder steers was still $111.33 per hundred weight compared with $114.64 in 1987.

The continuing drought in the southern and eastern part of the province resulted in severe shortages of both grazing and winter feed supplies. Abundant mid summer rains in the remainder of the province resulted in local surpluses of both hay and feed grains. Federal/ provincial emergency programs provided assistance to the drought affected areas, which could be used by producers to purchase or produce supplementary feed supplies or supplement cash flow problems caused by the drought.

B. Sheep

Alberta lamb producers enjoyed near-record prices as the strength of the 1987 market was carried forward into the first half of 1988. The attractive prices of the previous two years resulted in increased production and an oversupply of lambs in the United States and Canada. These surpluses caused a sharp drop in lamb prices starting in late May. Over a period of four weeks, Alberta slaughter lamb prices fell by over 30%, from $95.00 per hundred weight live to just over $65.00. This compares with a normal seasonal drop in lamb prices of less than 20% in 1987. The fall in Alberta lamb prices was even more severe than in the U.S. because of the increase in the value of the Canadian dollar over the same period. In 1988, average price for finished lambs sold in Alberta was estimated $78.54, compared with $92.26 in 1987. Reflecting the near record prices early in the year, Alberta lamb producers received no stabilization payments in the first quarter of 1988. However, as a result of depressed prices for the rest of the year, stabilization payments were $6.83 per head in the second quarter, $12.59 in the third quarter, and $12.58 in the fourth quarter.

The prairie drought and sharp fall in prices over the summer tempered producers' plans to increase breeding flocks in 1988. The total sheep and lamb numbers in Alberta at January 1, 1989 was estimated at 134,000, an increase of 1.5% from the same date in 1988. This compares with a 2.3% increase in sheep numbers in 1987, and an average annual increase of 3.6% for the past three years.

C. Nutrition

As usual, weather conditions played a major role in the life of the livestock producer in 1988-89. April and May were extremely dry throughout the province and this delayed pasture growth. Many surface water supplies were very low which also delayed the start of the pasture season. As a result of the extended feeding period, hay prices increased in most regions and doubled in Region 1 ($40.00 increased to $80.00/ton). There was good precipitation in central and northern regions in June, but the southern areas remained dry. Rains in July in the north and central regions delayed hay harvest but stimulated good regrowth on the early cut fields. Good harvest conditions prevailed during August resulting in record high hay yields in the Peace and Barrhead regions. Poor pasture conditions in the south stimulated some early weaning of calves and early removal of yearlings from pastures. Although pastures were very poor in the south, weaning weights were only slightly lower than normal. Rains in late September through central and northern regions delayed harvest of the excellent grain crop in those areas. Good weather in October permitted a normal harvest. Mild weather in November resulted in dusty feedlot conditions which caused some health problems in calves.

The winter was relatively mild until the end of January. This produced "easy feeding" conditions in early winter. Then a heavy rain followed quickly by minus 30-40° temperatures produced the most undesirable conditions possible for cattle wintered outside. However, on a province wide basis, feed supplies were abundant and no major wrecks were reported until calving began. Significant cold and snowfall through February and March caused numerous losses during the calving season. Scours was reported in the southern regions and losses due to freezing were common in the north. Generally these problems were not related to feed quantity or quality. Although the snowfall caused some problems, the benefits to surface water supplies, especially in the south, were considerable.

Feed grains were not in short supply in Alberta but the general shortage on a world basis caused a sharp increase in price. The price of barley was more than doubled to settle into the range $110-$130 per tonne. Demand for good quality oats was high and oat prices generally exceeded barley prices on a tonne basis. The increased grain prices affected ration formulation in that less grain was used in feeding programs than has been the case for the past few years.

Forage production was very good throughout central and northern regions. As a result, prices were low ($30-40/ton). Movement of forage from central to southern Alberta and the northern U.S. occurred Forage quality was generally good to excellent.

The beef industry was in generally good financial condition though break even forecasts for feeder cattle were overly optimistic because of increased feed costs and the increased value of the Canadian dollar. Hog prices remained low but did not generally affect the feeding management strategies of larger producers. The dairy industry continued to benefit from their pricing formula. Although market prices for lamb fell drastically, the attitude of established producers remains positive and the demand for nutritional services is high.

Feed manufacturing capacity still exceeds demand in Alberta. The new Shur Gain mill in Edmonton is primarily a replacement for an old unit, but will also increase capacity. The capacity to manufacture premixes has expanded in Alberta. This will make this aspect of the industry more competitive. At least one existing premix maker has diversified slightly to withstand foreseen competition.

Feed related health problems were minimal in 1988-89. The exception to this was increasing feedlot bloat losses in central and northern regions. Some uterine inertia during calving season may have been feed related as well.

D. Regional Summaries

Region 1

Lower hay ($30-$40 per tonne) and grain ($1.30 per bushel for barley) led to less land being committed to hay production in 1988. Summer drought conditions forced some producers to graze hayland. Both of these factors,

along with a harder winter in 1988-89 have led to hay prices increasing to $85 per tonne by the fall of 1988 and $100 per tonne in the spring of 1989.

Lower feed prices in the spring of 1988 led to less cereal straw being baled last fall. The drought situation also affected producers' decisions. The mild winters of the past few years have lessened the demand for straw. The resulting lowered stocks, along with higher hay prices and a relatively harder winter increased the demand for and the price of cereal straw. The harder winter and the lack of straw supplies led to more frostbite problems with dairy cows and beef breeding bulls.

Recent drought conditions have resulted in more open cows and a higher culling rate based on factors other than not being in calf. It has also led to cows going into winter in poorer than normal condition. Increased feed prices along with a harder winter has resulted in more nutritionally related health problems associated with calving. Producers who felt that they had overcome scour problems in previous years are now experiencing substantial losses.

The droughts of recent years and the subsequent overgrazing of native ranges has depleted range cover. This lack of cover has led to more snow blowing off the range, higher runoff during the spring melt, and potential for higher summer evaporation rates. These factors, coupled with poorer plant nutrient reserves, will delay the onset of grass growth and total forage production.

Extension activities were dictated by the drought situation. Several south eastern locations had cow and calf nutrition seminars last summer. With a lack of sufficient range and water sources, many cattle had to be fed supplemental feed throughout the summer. Ration formulations for beef cows suckling large calves served to illustrate the increased feed needs of larger heavy milking cows. During the fall of 1988 and the spring of 1989, much of the beef extension work centred around range and pasture management, winter cow nutrition and the effect of drought on reproductive performance of the beef cow.

Historically, much of the range in the region has been evaluated in terms of animal units. An animal unit has been defined as a 1,000 pound cow milking about 10 pound per day, and nursing a 300-400 lb. calf. This type of evaluation has led to serious over valuation of pastures. This has become increasingly apparent because of the recurring droughts.

The drought has also led to the conclusion that supplementing beef cows to maintain milk production for calves may not be economically feasible. Direct feeding of calves may be a better approach. Although several producers considered weaning their calves in the early summer, the hope of rain led most to use less drastic measures, such as creep feeding and early fall weaning.

Although the cow-calf industry has been profitable, lack of pasture and native hay production has curtailed expansion of the cow herd. Most of the expansion that has taken place is within existing herds.

Margins in the feeding industry have been slim and variable in 1988-89. Most fed cattle were in a negative position without the beef stabilization program. Recent increases in interest rates have led to some downward pressure on the price of feeder cattle. Since the fall of 1988, feed and feeder cattle prices have led to most feedlots remaining fairly current in their marketings. Carcass weights are lower that in the spring of 1988. Cattle are selling with less carcasses in the fatter grades, and fewer overweight and overfat cattle going to the United States.

Region 2

The weather for the region was normal last year -- totally unpredictable. Combined with a very dry spring, only moderate summer moisture and a cold winter with lots of snow, livestock producers had a challenge to feed and manage their cattle. Markets were slightly lower than in the previous year. Cow numbers are rebuilding slowly.

As always, the market remains an issue and particularly this past year, slaughter prices didn't rise to expected levels. The result of this and good payouts on the tripartite program have credited high interest in joining the tripartite program.

Last year, when a program on scours prevention was offered, interest levels were negligible, but with the first harsh winter and spring in over ten years, scours became a major problem. The magnitude of total losses is hard to predict but the combination of death losses and loss in weaning weights (calves that survived but won't grow properly) will result in a significant economic loss to the industry in the region.

The Cargill packing plant is a reality. Construction is nearly complete. There is still a great amount of speculation as to what effect the plant will have on the packing industry. It is a given that the feeding industry in the region will change. As an example, some major feedlots have contracted calves out in smaller groups for custom backgrounding.

Region 3

The feedlot industry was in a negative margin situation through out most of the year. Break evens were difficult due to an active feeder cattle market, along with high grain prices due to the United States and Canadian drought. Many feedlot producers marketed fat cattle in anticipation of stabilization payments instead of concentrating on enterprise management. Roughage (silage) was in abundant supply due to a near record harvest as rains came just in time after a near disastrous spring start. Pastures were extremely dry early in the season but rebounded to produce average gains. Winter feedlot gains were down due to cold weather.

Due to the dry conditions, producers were anticipating the worst, but June rains brought renewed optimism. Calf weaning weights were good and returns were strong, although lower than in the past few years. The winter appeared to be abnormally harsh after a number of mild years and many producers had forgotten what management is needed and nutrition became a concern. Abundant hay supplies helped, but scours and cow and calf stress was noticeable and many cows came through winter only in fair condition. This may yet impact on next year's calf crop. Spring runoff appears to be adequate and dugouts should be reasonably full.

Region 4

Dry conditions at the start of the year extended the winter feeding season as pastures got off to a slow start. There was some movement of hay into the region. Dry pastures caused some cattlemen to consider alternative management strategies, such as creep feeding, early weaning, or grazing cereals. A number of producers had to reduce stocking rates.

There were several cases of toxic plant poisoning on pasture with water hemlock and arrow grass causing the loss of a few head of yearlings in the Wainright area.

Demand for breeding bulls was good as producers continued herd rebuilding. There is growing interest in Piedmontese cattle. A group of producers from the Two Hills and Lamont areas have formed an Alberta Piedmontese Breeders Association.

Nilsson Bros. have turned around the Vermilion Auction Market. Their exotic calf sale on October 22 was well attended with 2,800 calves on offer. Five hundred pound calves sold for $1.14 to $1.16, and 600-650 pound calves sold for $1.02 to $1.07. Bred heifers and cows traded in the $800 to $1,000 range.

More work needs to be done on the factors affecting shrink and the degree of shrink caused by these factors. During the CattleSim courses, participants have indicated 6 to 9% shrink is what they experienced. However, many producers have no idea how much shrink they are taking on their cattle.

Good feedback was received on the performance of rations formulated for producers. The energy and protein levels in our requirement tables are about right. Several producers had problems with bloat using mixed hay and grain rations in their feedlots.

A three week long cold snap in February caused havoc with calving. Many producers complained of calves having frozen ears and tails, cows having chapped teats, and bulls having frostbit scrotums. Some producers will likely move their calving season later in the year next spring. Calving problems were very common this spring, even in mature cows. Many producers complained of big calves, up to 150 and 175 pounds at birth in two cases. Downer cows were identified in a number of herds in the Viking and Vermilion areas. Most of these were due to calcium and phosphorus imbalances or deficiencies. In a few herds in the Viking area, magnesium was identified as being deficient in cereal based diets. A magnesium block trial was established in cooperation with six producers in the Viking and Vermilion areas.

Region 5

An exceptionally dry spring was turned around by late May and June rains which increased pasture growth but did little to fill the many empty dugouts. Many cattle were transported into this region because of the dry conditions elsewhere. There was a heavy run on cattle entering provincial grazing reserves and private leases. Pasture productivity was variable throughout the region. The Pembina Forage Association cow-calf pasture, northeast of Jarvie, achieved 2.3 acres per cow-calf pair for a 183 day grazing season.

The central and western part of the region had abundant hay crops. There were many inquiries about the leasing of cows for the winter as a means to market surplus hay. In spite of cold January, February and March conditions, the region has a small carryover of roughage.

An exceptionally cold calving season resulted in many calves with frozen ears and tails, and the occasional frozen foot. Many breeding bulls had their scrotums frost bitten. Semen evaluation tests 60 days later showed that the frost bite did not have a lasting effect on semen quality of many of the affected bulls. Breeding cows and bulls appear in good condition for the upcoming breeding season.

Cow-calf returns were generally profitable throughout the year, but feedlot returns were marginal. A shortage of calves, a higher Canadian dollar and an increase in grain prices tempered feedlot profits. The feedlot industry bid aggressively on calves resulting in an average price in the $1.05 to $1.10 range. This resulted in breakeven finished prices in the mid to high 80's. Optimism was partly based on the national tripartite beef program reducing their risk of loss. The feedlot industry in this region appears healthy. Many producers are feeding calves to heavier weights.

Although only a very small percentage of the region's beef herd fall calve, it is an alternative which more producers are considering.

Region 6

The majority of activities centered around beef cattle. Minor activities were with sheep, bison and horses. The Cattle Improvement Program (CIP) home record book was completed and introduced to district staff. CIP was established as a pilot extension project in the La Crete-Fort Vermilion area.

The third summer with a carpenter technician supervising cattle handling corral construction was completed. Cattle marketing projects at High Prairie, Debolt and Hythe were ongoing attempts to introduce marketing options to local cattlemen. Several large herds have phased over to fall calving, and interest from other cattlemen is increasing.

Several A.D.C. and bank loan proposals for sheep operations were developed. The Peace River Lamb Association completed the 18th year of coordinating slaughter lamb shipments. "Kitchen " seminars and farm visits were made throughout the region.

Forage supplies are excellent, with good carryover. However, with increasing grain prices and lower forage seed prices, a lot of forage acreage will be turned over to grain production in 1989.

II. PROGRAMS

1. Federal-Provincial Beef R.O.P. (Record of Performance) Program

In the first full year since the Department took over the data processing function of the program, things have gone very smoothly. There have been some relatively minor hardware problems, and there is now a problem of computer memory capacity, but to date these difficulties have not caused major disruptions of service or of program integrity. Producers have expressed considerable satisfaction with the service provided to them.

A total of 6,938 weaning records from 104 herds were processed in 1988-89. This is down somewhat from the previous three years. The Canadian Angus Association has opted to provide their membership with the Federal-Provincial Beef R.O.P. Program using their own computer and this has certainly had an impact on the number of herds submitting records to the Branch for processing.

In March, 1989, the first Estimated Progeny Difference (EPD) calculations were run. These calculations have been eagerly anticipated by producers as they are a significant improvement in genetic evaluation. As a field test, EPD reports were produced for about 20 herds. Herd owners were asked to review the reports for apparent inaccuracies and to make general comments on the reports. No glaring errors have been reported to date, and comments have been very favorable.

Preliminary returns indicate that with EPD's now operational, and the speedy data processing now being achieved, many more producers are planning to try performance testing once again.

Alberta had the opportunity to host the 1988 meeting of the National Advisory Board for Beef Cattle Improvement. Representatives from across Canada met in Calgary with industry leaders in the field of performance testing to plan the future focus of performance programs. Progress has been made in recent years to coordinate the efforts of Governments and industry in order to provide improved performance programs.

2. R.O.P. (Record of Performance) Weight Supervision Program

This program provides for the supervision of weights taken for beef R.O.P. programs in the province. This is accomplished through both hired technicians and through reimbursement of Counties and Municipalities whose employees have provided supervision.

In 1988-89, 16 districts were involved in the program. Over 28,000 head of cattle in 491 herds were weighed at a cost of about $30,900. The numbers of cattle, herds and costs are each up slightly from 1987-88.

Data obtained by the Weight Supervision Program may be analyzed by: the Federal-Provincial Beef R.O.P. Program, one of several industry (breed association) programs, at home on one of a number of home microcomputer programs available, or by hand. In some cases no calculations are done to improve the evaluation of the cattle. It is felt that the program still is of use to these farmers because knowing the weights is better than nothing. Efforts are underway to encourage these producers to enroll on a formal R.O.P. program.

3. Bull Test Stations

Alberta producers continue to support the province's private bull test stations with real enthusiasm. Both the number of stations and the number of bulls tested increased by 20% for the second year in a row. In 1988-89, a total of 46 agencies organized tests located from Raymond in the south to Fairview in the north and tested 4,955 bulls.

Branch and regional staff supervised the on/off test weights and provided consultation in testing procedures at most of the test stations. The Branch also provided a computer program to assist with calculation and distribution of the test results.

Prices and numbers of bulls actually sold at test station, bull sales this spring were somewhat variable - depending to some degree on how selective the individual sale committees were in determining which bulls would be offered for sale. Sale prices averaged close to what they did a year ago and that gives promise to continued support for bull testing for 1989-90.

The Ellerslie bull test facility, which had been run by the Branch for 17 years was closed in 1987. The University of Alberta tried to run a bull test in 1988-89, but costs were such that it did not receive much support from breeders. The Ellerslie test station had been run as a demonstration test station. With the rapid increase in privately operated bull test stations, the need for the Branch to operate this facility has diminished. The closure will be permanent.

4. The Alberta Beef Cattle Performance Awards

Two awards are made each year. One to the Commercial Cattleman of the Year and one to the Purebred Cattleman of the Year. These awards are presented annually to Alberta producers who demonstrate the use of performance testing principles in their breeding programs. Winners are selected from nominations submitted by beef producers or organizations.

The 1988 recipients of the Alberta Beef Cattle Performance Awards were presented with their awards in early 1989. Neil Harvie of Cochrane was selected by the panel of judges as the "commercial" award winner. This award was presented at the Alberta Beef Symposium. Orrin Hart of Claresholm was named the winner of the "purebred" award. Mr Hart received his award at the annual meeting of the Canadian Angus Association held this year in Calgary.

Both Alberta winners were subsequently nominated for the Canadian Beef Performance Awards. In February, 1989, Orrin Hart was named the winner of a Canadian award.

5. Reproductive Physiology

Beef and dairy cattle fertility is a major animal management problem facing producers in Alberta. Failure to reproduce in a timely way causes lower weaning weights in beef, lower annual milk production in dairy cattle and the early culling of otherwise valuable animals. Both female and male fertility has been addressed in the past year.

In the past, breeders have not routinely evaluated their bulls because they neither understand the need for the evaluation nor the economic implications. To increase awareness, many bull evaluation workshops have been held during the past two years. Many community pastures now require semen evaluation of all bulls used and an increasing number are also doing complete bull evaluations. Although it is difficult to accurately evaluate, it appears that an increasing number of producers are also having fertility evaluations performed on their own bulls.

6. Semen Evaluation Laboratory

The major purpose of this laboratory is to assist the industry evaluate the quality of semen produced for artificial insemination. The laboratory handled 806 samples of semen from various species during the fiscal year (Table 1).

Table 1 Number of Semen Samples Evaluated

Species	1988-89	1987-88	1986-87
Bison	1	1	-
Cattle	767	662	681
Goats	22	-	-
Horses	1	-	-
Sheep	-	45	3
Swine	16	8	11
Turkeys	-	11	-
Total	806	727	695

Of the 806 semen samples evaluated during the year, 593 (74%) were submitted by the Alberta bull studs. Of these 593 samples, 184 were suspected to be of unsatisfactory quality by the consignors and 134 (73%) of these were found to be of unacceptable quality. The rest of the samples were received for routine monitoring and 142 (35%) of these did not meet our guidelines. The number of samples received from the three Alberta bull studs and the number of these samples judged to be substandard during the past three years, are shown in Table 2. Besides the samples submitted by the bull studs, 213 other semen samples were handled by the laboratory during the year. The majority of these samples were related to research projects, checking quality of semen submitted by embryo transfer and A.I. inseminating businesses and evaluating the quality of semen produced at a goat stud.

Table 2 Number of Semen Samples Evaluated for Alberta Bull Studs and Number of Samples Found Substandard

Source of Semen	Number of Samples			Number Substandard		
	1988-9	1987-8	1986-7	1988-9	1987-8	1986-7
A.I. Studs	593	570	644	276	241	242

The Alberta Agriculture guidelines for minimum quality of cattle semen produced in this province were first formulated in 1978. The guidelines were altered in 1987-88 in consultation with the three beef studs located in this province and a moderator from Agriculture Canada. The changes were made to better reflect the practices of the cattle semen producing industry in Alberta and in light of the research on semen quality versus fertility published since 1978. These new guidelines were explained to those attending the A.I. Industry Forum held in July, 1988.

The guidelines as they were in 1978 and as modified in 1988 are detailed below (Table 3):

Table 3 Semen Evaluation Guidelines

Quality of Frozen Semen	Guidelines for Minimum Quality	
	1978	1988
% minimum live, (progressive and motile) spermatozoa, post-freeze per dose	20	20
Minimum number live, progressive and motile) spermatozoa, post-freeze per dose	10 million	8 million
Minimum % spermatozoa with intact acrosome post-freeze	Beef - 40 Dairy -50	All - 40
Maximum % permissible primary spermatozoan abnormalities	10	15
Maximum % permissible secondary spermatozoan abnormalities	20	15 of any one category
Maximum % permissible total spermatozoan abnormalities	30 30	30 30

In addition to the routine activity of evaluating semen samples, the laboratory was involved in related extension and research areas.

7. Artificial Insemination

The Animal Breeding Section is responsible for administration of the Artificial Insemination of Domestic Animals Act and its related Regulations.

During 1988, the following licenses were issued:

Semen Producing Businesses:	1 swine 3 cattle
Inseminating Businesses:	33
Artificial Inseminating Technicians:	83
Semen Producing Technicians:	16

The number of businesses and inseminating technicians are down substantially from last year. This is due in part to the increase in business licence fees to $50.00. Some of the businesses operate only part time and had a small client group. They did not feel that it was worth the fee to keep operating. The other reason is that some large breeding groups are amalgamating several smaller satellite businesses into one corporate body and now operate under a single licence.

A.I. businesses that depend on beef cattle for their business have done fewer and fewer inseminations over the past few years. More and more of these businesses have gone to part time service or dropped out all together. A.I. businesses that rely on the dairy industry have been able to maintain their volume at a higher level.

The growth area in the artificial breeding is embryo transfer. Canada exported nearly 10,000 frozen embryos in 1988. This is an increase of about 100% over 1987. Most of these embryos are produced in Alberta and further increases are anticipated.

Only a minimum amount of extension work was done in the area of artificial breeding. Two research reviews on A.I. to all technicians and routine visits to bull studs and new A.I. technicians were made.

8. Game Farm Extension

The Section has the responsibility to provide extension service to the game farming industry. This includes the areas of bison, domestic game (elk and deer raised on farms) and exotic animals such as llama. There is a lot of interest in all of these enterprises and requests for information account for a significant portion of the extension activities of the Section.

Staff only responded to direct requests for information or telephone inquiries from producers. They did not attend or speak at public meetings, release articles for publication or contact the media to give interviews about game farming. Farm calls were curtailed as much as possible. Even with the lower profile, inquiries continued to come in at a rate averaging 5-6 per week, about half being requests for information about elk, the remainder for either bison or llama. Most of these calls resulted in an information package being mailed to the farmer for further study.

9. Warble Control Programs

Packing plant inspections showed 1.2% infested carcasses in the period from February through May in 1988. This compared with 1.5% in 1987. Agricultural service boards in the province received grants to reimburse 60% of their warble control program costs in 1988, in addition to a reimbursement of 100% of their costs to provide warble inspectors in auction markets and at grazing reserve entry dates. The Branch also provided and supervised warble inspectors at the Edmonton Public Stockyards.

Table 4 Warble Control Program Costs

1988	1987	1986	1985	1984
$148,380	$164,040	$156,443	$157,969	$149,702

10. Livestock Production Improvement Program

Agricultural Service Boards are encouraged to include projects in their annual plans which will help livestock producers learn of and adopt improved livestock production practices. The Department, through funds supplied by the Rural Services Branch, provides grants to reimburse 60% of the cost of these projects. During the year, staff of the Animal Management Section of the Animal Industry Division participated in workshops to familiarize service board field staff and Department extension staff with procedures for planning, conducting and reporting on these livestock production improvement projects and demonstrations.

Table 5. Livestock Production Improvement Grants

1988	1987	1986	1985	1984
$23,648	$43,491	$42,133	$56,086	$42,228

11. Black Fly Abatement

There was a change of emphasis in programs to provide livestock relief from black flies in 1988. In the absence of a permit to use the larvicide methoxychlor in the Athabasca River to reduce black fly numbers, the Department increased the emphasis on methods for protecting animals from adult black fly attack. A program was initiated to assist producers in the

major black fly affected area to purchase and evaluate on-farm systems for protecting livestock from adult biting flies. The Department shared one third of the cost, with the balance being paid by the farmer or shared with the agricultural service board, depending on the jurisdiction.

The Department also provided encouragement, through cost sharing grants to both Agricultural Service Boards and other agencies and individuals, for testing other methods for providing on-farm protection from adult black flies. The total of $34,862 was provided in grants for incentives to producers and testing new systems in 1988.

A permit was obtained to test the effectiveness of the biological insecticide Bacillus thruingensis 14 (BTH-14) as a larvicide for black flies in streams, and evaluate the environmental impact in these tributary streams to the Athabasca River. In 1988, stream flow was too low and black fly larvae numbers were insufficient to evaluate the product and the test was postponed until 1989.

The Department conducted a survey of livestock producers in the County of Athabasca to document livestock production practices in the district and assess the economic impact of black flies in the area. Results indicate that black flies caused economic loss in many herds and that some producers in the black fly affected area had developed effective strategies to reduce these losses.

12. Sheep R.O.P. (Record of Performance) Home Test Program

1988 saw the second year of use of the federal-provincial sheep home test program administered from the Edmonton office. Producers who had prelisted their flocks reported satisfaction with the improved turnaround of information from returns processed in Edmonton instead of Ottawa. Enrollments in the program showed an increase of over 90% in 1988-89 compared with the previous year.

Table 6. Enrollment in Sheep R.O.P. Home Test

Breed	1988	1987	1986	1985	1984
Suffolk	1733	2135	3339	2514	2079
Hampshire	153	291	332	240	397
Cheviot	193	204	255	243	358
Rambioullet	1033	235	388	487	253
Columbia	88	110	368	281	227
Dorset	410	162	122	196	172
Leicester	---	---	---	---	14
Corriedale	---	---	---	---	51
Finnish Landrace	237	13	69	---	---
Polypay	448	---	69	---	---
Romonov	230	25	22	---	---
Other Purebreds	17	---	---	36	---
Crossbreeds	2139	326	2446	146	349
Total	6681	3509	7410	4143	3900

* data from 1987 and 1988 records include only flocks which were recorded on the federal-provincial program which requires registered flock letters. Data from 1984-1986 include commercial flocks registered on the provincial microcomputer program which did not require registered flock letters. Commercial flocks may obtain registered commercial flock letters and the increase in enrollment in the 1988-89 year suggest that they are doing so.

13. Alberta Ram Test Station and Hays Pasture Test

A record number of 221 rams from 37 contributors were entered at the central ram lamb test station at the Olds College in 1988. This number included 5 rams which were being held over for the wool breeds test. The pilot test for performance of ram lambs on the Hays pasture was discontinued in 1988 when literature reviews showed that lambs tested on forage and grain rations performed similarly to those tested under pasture conditions. More than 300 buyers attended the 14th annual test station sale at Olds College. The 74 rams offered for sale went to buyers in Alberta, British Columbia, Ontario, Quebec, and Montana. The sale average of $598 was a station record.

Table 7. Central Ram Lamb Test Station Results 1975 - 1988

Year	Breeders on Program	Sheep Tested	A.D.G. Suffolk (Rams)	Head Sold	Average Price (all ram lambs)	Top Price
1975	12	85	.320 kg	45	$ 223	$ 525
1976	7	70	.360	43	231	450
1977	14	165	.360	53	244	500
1978	16	155	.420	57	275	1050
1979	17	123	.490	52	331	675
1980	17	101	.480	44	323	520
1981	23	102	.480	40	375	775
1982	28	115	.470	49	387	1100
1983	38	173	.514	61	332	750
1984	37	* 228	.550	72	348	1500
1985	38	* 202	.532	61	421	1350
1986	28	**238	.516	51	416	950
1987	24	**190	.508	64	558	2800
1988	37	* 226	.518	74	598	1650

* Includes entries on Wool Breeds Test

** Includes entries on Wool Breeds Test and pilot pasture test which was discontinued in 1988.

14. Alberta Angora Goat Performance Test

In 1988, Alberta Agriculture, with the cooperation of Olds College and the Alberta Angora Breeders, conducted the first central performance test of angora goats in Canada. The test was modelled after the annual mohair goat test held in Texas.

Twenty five yearling bucks, at a minimum weight of 80 lbs., entered the testing facility at Olds College on March 15. After a three week adjustment period, the goats were sheared on-test on April 5. The 120-day test measured clean fleece weight, which contribute d 50% of the index value; average fibre diameter, 30% of the index value; average daily body weight gain, 10% of the index value; an d final body weight, 10% of the index value.

Table 8 Alberta Angora Goat Performance Test

Year	Greasy Fleece Weight (lb.)	Clean Fleece Weight (lb.)	Average Yield (%)	Average Fibre Diameter (microns)	Daily Gain (lb.)	Final Body Weight (lb.)
1988	13.4	10.0	74.8	39.2	0.28	123.8

Fourteen animals indexed over 100. One of these was culled for a physical defect (teeth). Ten of the thirteen bucks qualifying for sale sold for an average of $452. Concerns that introducing centrally tested animals to herds under quarantine would disqualify them for export sales limited the salability of the qualifying bucks. Many of the goats not qualifying for sale as breeding stock we re sold as wethers for mohair production.

15. Beef Herd Management Program

The beef herd management reference binder and study guide, introduced in late in 1987, had sales of 4,000 by March of 1989. Committees, chaired by field staff, were formed to recommend revisions and additions to the reference binder for regular updates. A videotape on systematic beef herd management was produced in 1988 and completed for distribution in March of 1989. A major revision of the Alberta Cow Calf Manual was completed in 1988 and published for distribution in March, 1989.

A "Cattle Improvement Program" (CIP) pocket record book was developed, in cooperation with producers and staff in the Peace River Region, to record daily information necessary for systematic beef herd management. Staff in the animal management section continued to develop a computer software program (COWCHIPS) to support a systematic, integrated approach to beef herd management.

Twenty beef herd management groups operated at district level in the province. One group initiated a Farming for the Future on-farm demonstration to show how systematic herd management strategies could improve herd performance. The report of the first year of the demonstration shows improvement in a large majority of the herds in the group.

A survey, developed to support systematic beef herd management programs, was completed in 25 districts in 1988. A total of more than 3,400 herds completed and returned the survey forms. The herd data from each herd was analyzed for key management indicators and each herd owner received a

report with suggestions for improving herd performance and income. The surveyed herds represent an estimated 250,000 breeding females. This is more than 15% of the breeding beef herd in the province.

16. Feed Analysis Service

The objective of this program is to provide information on the nutrient quality of feedstuffs so that optimum levels of production can be achieved by producers. This is accomplished through the analysis of feeds for producers, extension staff and researchers. As such, three categories of feedstuffs exist:

(1) regular for paid submissions from producers,

(2) demonstration for diagnostic and extension work by government staff, and

(3) research for special projects being conducted by university, federal and provincial government staff.

Total Samples Analysed

The number of samples received for analysis in 1988-89 was 12,064 which is comparable to last year (12,864) and is 14.5% below the ten year average (Table 9). Regular and research samples decreased 13.8 and 8.1% respectively from last year while demonstration samples increased slightly (3.9%). Regular samples constituted 18% of total samples which is down slightly from the five year average of 20.4% (Table 10). Demonstration samples constituted 27.5% of the total number received which is slightly higher than last year (24.8%) but up considerably from the five year average (19.2%). Research samples accounted for 54.5% of the total which is comparable the proportion of the last three years (53.8 to 55.6%), but is down from the five year average.

Table 9 - Comparison Between the Number of Samples Received in the Last Three Fiscal Years and the Average Number Received in 1979 to 1989

Period	Regular	Demonostration	Research	Total
1986-87	3,360	3,055	7,456	13,871
1987-88	2,524	3,189	7,151	12,864
1988-89	2,175	3,312	6,577	12,064
Average				
1979-89	3,556	2,560	7,701	13,817

Table 10 - Breakdown by Sample Submission Classification for the Past Five Fiscal Years

Sample Category	1984-85 No.	1984-85 % of Total	1985-86 No.	1985-86 % of Total	1986-87 No.	1986-87 % of Total	1987-88 No.	1987-88 % of Total	1988-89 No.	1988-89 % of Total	Five Year Average No.	Five Year Average % of Total
Regular Samples	3,756	19.5	3,566	20.6	3,360	24.2	2,524	19.6	2,175	18.0	3,076	20.4
Demonstration Samples	2,637	13.7	2,295	13.3	3,055	22.0	3,189	24.8	3,312	27.5	2,898	19.2
Research Samples	12,883	66.8	11,412	66.1	7,456	53.8	7,151	55.6	6,577	54.5	9,096	60.4
Total Samples	19,276	100	17,273	100	13,871	100	12,864	100	12,064	100	15,070	100

The decrease in regular feed analysis samples received is consistent with comments received from the private labs in northern and central Alberta. This may be a reflection of the abundance of feed supplies in the north and central regions of the province as two southern Alberta labs reported an increase in the number of feed samples received. Since feed supplies were limited and more expensive in the south, it appears that producers in these areas may have been more concerned about feed quality and ration formulation.

Frequency of Sample Submissions

The frequency distribution of samples received was similar to the pattern established in previous years (Table 11). Eighty-five percent of the total number of regular samples were received in the months of August to January inclusive. During this same time period, 73% of the demonstration samples were received. Only 44% of the research samples were received, which is an indication that the Agricultural Soils and Animal Nutrition Lab (ASAANL) is doing a good job of scheduling the research samples.

Within the regular submissions, the grains category experienced the greatest decline (43%) relative to last year (Table 12). Dry roughages and silages declined 7% and 26% respectively while mixed feeds declined 14%.

Types of Analysis Conducted

The distribution of chemical analyses conducted on regular samples was similar to previous years (Table 13). Approximately 13% of the regular submissions requested selenium analysis in addition to the regular package.

Other common trace mineral requests were copper (7.4%), manganese (5.5%) and zinc (7.5%). Special analysis such as NDF, ADIN or crude fat were requested rarely (less then 2% of the regular submissions) by producers, but were used more frequently by submittors of demonstration samples (2.6, 6.7 and 6.0% respectively). The number of trace mineral analysis reported for demonstration samples increased dramatically over last year (Table 13) which increased the totals reported in Tables 14 and 15. This is due mostly to a change in data reporting within the ASAANL. Prior to 1988-89, specific trace minerals were only reported as requested even though a number of other trace mineral results were available simultaneously on the ICP. In 1988-89, all ICP trace mineral results were entered into the data base program and therefore are validly credited as analyses conducted. This greatly increased the trace mineral data base and has made publishing regional trace mineral values possible.

17. Feeding Programs

Each feed analysis report was individually evaluated by the Laboratory Nutritionist and general comments on nutritional quality were made. In 1988-89, 1,056 regular and 854 demonstration reports were printed and evaluated (Table 16). This represents a 12.5% decrease in regular reports, but a 10.5% increase in demonstration reports.

Feeding programs were developed by nutritionists in response to requests that accompanied feed samples and that originated in other ways. Table 16 shows the number of feeding programs developed by species. Prior to 1988-89, only the number of feeding programs requested with feed sample submissions were reported in Table 16 and therefore, the numbers do not necessarily represent and increase in actively in 1988-89.

Table 11 - Frequency of 1988-89 Fiscal Year Samples According to the Month Received and Submission Classification

Month	Total	Regular	Demonstration	Research
April	240	67	110	63
May	1,526	21	103	1,402
June	305	32	75	198
July	340	44	296	0
August	652	123	324	205
September	1,219	371	531	317
October	1,029	413	520	96
November	1,593	529	414	650
December	1,034	235	287	512
January	1,630	187	335	1,108
February	1,200	93	173	934
March	1,296	60	144	1,092
Total	12,064	2,175	3,312	6,577

Table 12 - Frequency of Regular Sample Feed Types by Fiscal Year +

Month	Total		Grains		Roughages		Silages		Mixed Feeds*	
	1987-88	1988-89	1987-88	1988-89	1987-88	1988-89	1987-88	1988-89	1987-88	1988-89
April	76	67	38	8	33	28	5	3	0	28
May	52	21	17	2	20	11	15	3	0	5
June	67	32	39	3	27	13	1	3	0	13
July	172	44	36	7	115	26	21	4	0	13
August	138	123	10	6	81	92	41	11	6	14
September	261	317	53	46	157	207	31	41	20	23
October	566	413	129	83	377	293	30	17	30	20
November	442	480	111	87	242	308	57	57	32	28
December	350	235	69	23	202	153	48	48	31	11
January	206	187	26	32	104	109	42	30	34	16
February	71	93	12	8	29	65	15	7	15	13
March	121	60	12	11	46	27	10	10	53	12
Total	2,522	2,072	552	316	1,433	1,332	316	234	221	190

* Mixed feeds is a new category that was introduced in 1987.

\+ Numbers Do Not Include 103 "Special Samples" Received Throughout The Year.

Table 13 Distribution of Chemical Analyses of Alberta Feedstuffs by Sample Submission - 1988-89 Fiscal Year

Analysis	Regular	%	Demon-stration	%	Research	%	Total Number of Analyses	%
Regular*	2,175	69.38	3,312	14.69	6,577	49.03	12,064	30.86
Carotene	25	0.80	31	0.14	0	0.0	56	0.14
Fat	13	0.41	199	0.88	0	0.0	212	0.54
Selenium	276	8.80	1,203	5.34	85	0.63	1,564	4.00
Salt	6	0.19	211	0.94	0	0.00	217	0.56
Ash	10	0.32	48	0.21	534	3.98	592	1.51
Copper	162	5.17	1,655	7.34	1,194	8.90	3,011	7.70
Manganese	120	3.83	1,631	7.23	1,194	8.90	2,945	7.53
Zinc	130	4.15	1,664	7.38	1,194	8.90	2,988	7.64
Iron	10	0.32	1,446	6.41	229	1.71	1,685	4.31
Magnesium	94	3.00	1,547	6.86	181	1.35	1,822	4.66
Potassium	24	0.77	1,559	6.91	181	1.35	1,764	4.51
Sodium	0	0.00	1,275	5.65	0	0.00	1,275	3.26
Aluminum	0	0.00	1,198	5.31	0	0.00	1,198	3.06
Molybdenum	5	0.16	1,332	5.91	169	1.26	1,506	3.85
Sulphur	21	0.67	1,048	4.65	819	6.11	1,888	4.83
A.D.I.P.	38	1.21	223	0.99	415	3.09	676	1.73
Prussic Acid	3	0.10	1	0.00	0	0.00	4	0.01
Boron	3	0.10	1,223	5.42	96	0.72	1,322	3.38
Nickel	0	0.00	7	0.03	0	0.00	7	0.02
Cobalt	0	0.00	1,202	5.33	0	0.00	1,202	3.07
N.D.F.	4	0.13	85	0.38	0	0.00	89	0.23
Lignin	0	0.00	59	0.26	546	4.07	605	1.55
Chloride	0	0.00	5	0.02	0	0.00	5	0.01
Calcium			0	0.00	0	0.00	0	0.00
Phosphorus			0	0.00	0	0.00	0	0.00
Crude Fat	13	0.41	199	0.88	0	0.00	212	0.54
Crude Fibre	3	0.10	184	0.82	0	0.00	187	0.48
NO_3			0	0.00	0	0.00	0	0.00
A.D.F.			0	0.00	0	0.00	0	0.00
Vanadium	0	0.00	0	0.00	0	0.00	0	0.00
pH			0	0.00	0	0.00	0	0.00
Si	0	0.00	0	0.00	0	0.00	0	0.00
Moisture			0	0.00	0	0.00	0	0.00
Protein			0	0.00	0	0.00	0	0.00
Total	3,135		22,547		13,414		39.096	

* Regular analysis includes moisture, protein, calcium, phosphorus and nitrates for roughages. Silages also receive pH determination. Regular analysis for whole grains include moisture, bushel weight, protein and phosphorus. Calcium content of whole grains is not done but an average by species is reported.

Table 14 The Number and Types of Chemical Analyses on Alberta Feedstuffs Over the Past Five Fiscal Years

Analysis	1984-85	1985-86	1986-87	1987-88	1988-89	Average
Regular *	19,226	17,273	13,871	12,864	12,064	15,060
Carotene	273	242	213	124	56	182
Fat	166	347	211	357	212	259
Selenium	1,687	1,758	2,342	1,220	1,564	1,714
Salt	106	674	54	45	217	219
Ash	1,022	2,132	155	1,183	592	1,017
Copper	1,587	3,087	2,668	1,994	3,011	2,469
Manganese	1,456	2,139	2,230	1,882	2,945	2,130
Zinc	1,601	1,879	2,582	1,662	2,988	2,142
Iron	707	2,378	869	730	1,658	1,268
Magnesium	1,173	2,264	1,507	675	1,822	1,488
Potassium	1,121	1,346	1,750	1,590	1,764	1,514
Sodium	556	1,024	224	249	1,275	666
Aluminum	369	1,403	47	82	1,198	620
Molybdenum	402	1,805	453	217	1,506	877
Sulphur	1,018	31	1,617	1,379	1,888	1,187
Cadmium	75	290	35	0	0	80
A.D.I.P.	186	5	339	488	676	339
Prussic Acid	3	1,472	18	15	4	302
Boron	522	964	556	929	1,322	859
Nickel	115	1,021	29	0	7	234
Cobalt	9	813	241	13	1,202	456
N.D.F.	952	838	232	865	89	595
Lignin	108	-	80	799	605	318

* Regular analysis includes moisture, protein, calcium, phosphorus and nitrates for roughages. Silages also receive pH determination. Regular analysis for whole grains include moisture, bushel weight, protein and phosphorus. Calcium content of whole grains is not done but an average by species is reported.

Table 15 - Selected Types of Analyses Requested as a Percent of Total Samples Received

Analysis Conducted	1982-83 (%)	1983-84 (%)	1984-85 (%)	1985-86 (%)	1986-87 (%)	1987-88 (%)	1988-89 (%)	Average 1982 to 87-88
Selenium	14.5	9.1	8.8	10.2	16.9	9.5	13.1	11.5
Copper	17.0	8.8	8.3	12.3	19.2	15.5	25.2	10.7
Manganese	14.0	8.8	7.6	12.1	16.1	14.6	24.7	9.9
Zinc	16.4	8.9	8.3	12.4	18.6	12.6	25.0	12.9
Boron	9.0	1.1	2.7	8.5	4.0	7.2	11.1	3.3
Magnesium	12.6	6.9	6.1	13.8	10.9	5.2	15.3	9.3
Potassium	13.2	5.6	5.8	13.1	12.6	12.4	14.8	10.5
Sulphur	11.0	3.6	5.3	10.4	11.7	10.7	15.8	7.0
A.D.I.P.	1.2	0.5	1.0	1.7	2.4	3.8	5.7	1.6
Fat	0.7	0.7	0.9	2.0	1.5	2.8	1.8	1.1
N.D.F.	8.1	4.3	5.0	4.7	1.7	6.7	0.7	4.3
Lignin	1.0	0.3	0.6	4.9	0.6	6.2	5.1	2.1
Total Samples	12,455	20,395	19,226	17,273	13,871	12,864	11,936	16,014

Table 16 - Total Number of Feeding Programs* Developed by Nutritionists

	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89+	Average
Number of Regular Reports	1618	1753	1750	1585	1207	1056	1495
Demo. Reports	792	965	882	793	773	854	843
Species							
Beef	196	183	146	113	60	121	137
Dairy	73	49	25	42	7	63	43
Swine	88	56	39	41	18	49	49
Sheep	21	14	6	6	6	18	12
Horses	37	17	17	24	6	25	17
Poultry	7	6	6	5	1	0	4
Others	5	2	1	0	5	8	4
Total	427	327	240	231	103	284	265

* A feeding program usually involves several specific ration recommendations.

\+ Prior to 1988-89 only requests received with feed samples were reported.

18. Livestock Predator and Beeyard Compensation Programs

The purpose of these programs is to compensate farmers for up to 80% of the losses suffered through predation of livestock or bear damage to beeyards.

Decisions concerning livestock predator compensation are made by the Administrator or referred to a committee consisting of representatives of Alberta Agriculture (3), Fish & Wildlife Division (2) and appointed producers (4). Separate committees exist for the Peace Region and the remainder of the province.

Decisions concerning beeyard damage are made by a committee consisting of representatives of Alberta Agriculture (2), Fish and Wildlife Division (1) and appointed producers (2).

Table 17 summarizes the claims processed under the two programs for the 1988 calendar year. The amount of funds and the number of claims approved in 1988 are similar to the 5 year average for the livestock program but much below average for the beeyard program. In 1988, there was an increase in claims due to coyote predation but a decrease of claims due to bear predation (Table 18). Details as to predator species/livestock loss combinations are provided in Table 19.

Table 17 Summary of Claims Processed for the Last 5 Years

Year	Predators $	Predators # of Claims Approved/Processed	Beeyards $	Beeyards # of Claims Approved/Processed
1984	$252,075.16	707/938	$11,505.20	14/15
1985	176,849.40	578/751	5,364.80	18/31
1986	200,718.74	653/871	4,134.00	21/25
1987	232,265.27	695/904	5,146.45	27/41
1988	223,803.03	766/978	2,594.00	8/10
5-year Average	$217,142.32	680/888	$ 5,748.89	18/24

Table 18 Predators Responsible for Approved Livestock Loss Claims for Last 5 Years

Year	Bears	Coyotes	Wolves	Others	Totals
1984	73	494	68	72	707
1985	60	419	46	53	578
1986	95	431	58	69	653
1987	119	464	37	75	695
1988	54	594	47	71	766
5 Year Average	80	480	51	68	680

Table 19 - Value of Predator Loss Claims by Species of Predator for Southern & Peace River Committees, 1988

Predator Species	Cattle	Calves	Sheep	Goats	Swine	Poultry	# of Claims	Indemnity
SOUTHERN COMMITTEE								
Coyotes	13	217	1,259	11	2	1,152	559	$ 136,299.88
Bears	8	29	8	0	0	0	31	13,552.50
Wolves	14	13	2	0	0	0	19	13,090.00
Others	8	17	80	4	19	1,371	64	19,638.99
Totals	43	276	1,349	15	21	2,523	673	$ 182,581.37
PEACE RIVER COMMITTEE								
Coyotes	2	14	51	2	0	147	35	$ 6,856.40
Bears	52	34	3	2	11	0	23	21,865.00
Wolves	21	21	6	0	0	0	28	11,972.50
Others	0	0	2	1	1	204	7	527.76
Totals	75	69	62	5	12	351	93	$ 41,221.66
TOTALS:	118	345	1,411	20	33	2,874	766	$ 223,803.03

III. RESEARCH AND DEVELOPMENT

Branch staff continued to be involved in research and development projects. In addition to projects conducted by our staff, projects were also done in cooperation with producers, field staff and agencies outside of the department. The degree of involvement by branch staff ranged from doing the statistical analysis of the data to conducting the complete trial.

In addition to the larger projects listed below, staff have analyzed and consulted on smaller projects, especially Farming for the Future demonstrations. Advice on experimental design and data analysis has been provided to different associations that are involved with the cattle industry in Alberta. Close liaison is maintained with the Research Division to assist and advise field staff on experimental design. Close contact is also maintained with the University of Alberta. An informal discussion group was initiated in October of 1988 to promote the exchange of ideas, with a view to better coordination of projects of mutual interest in the area of beef cattle genetics and breeding. Summaries of research carried out with the involvement of Branch staff are published in a biannual Research Update.

Major 1988-89 projects involving Branch staff included:

Reproduction

1. Forty-eight hour calf removal - project about half completed. Purpose to determine if removal improves fertility in cow herd without diminishing calf weight.

2. Embryo transfer (ET) in commercial dairy - Purpose is to determine if ET could be performed by producers within their own herds. Success rate and cost benefit compared to contracting task will be evaluated. The work and the report on the contract portion of the project has been completed. Although funding has been approved for the owner transfer portion of the project, it has not proceeded as yet pending passage of regulations which clarify the legality of producers doing the work.

3. Synovex-C in replacement heifers: Synovex-C, a growth stimulant, has been implicated in infertility problems with heifers which have been implanted with the product. Project underway to evaluate its effect in Alberta. Preliminary results indicate 7% reduction in pregnancy rates. Further data to come.

4. Clitoral stimulation during artificial insemination: Preliminary reports indicated an improved conception using procedure. Data from A.I. technicians has been collected. Final report awaiting results from cooperating owner inseminated herds.

5. Lamont Total Beef Herd Management: Cooperative effort with Beef Management Specialist, district agriculturist, local veterinarian and club members to study implications of performing bull evaluations, condition scoring of cows and various data collections. Project underway.

6. Embryo transfer by beef producers: Final report completed and submitted to Farming for the Future which funded the project.

7. Use of pelvic measurements in heifers: Approximately 1,000 heifers started on the study in 1988. Progress reports submitted through pre-calving data collection periods. Calving data collection is occurring in spring of 1989.

8. Relaxin for treating ringwomb in sheep: Preliminary report prepared on results of last year's trial. Study to continue this year.

9. Growth Hormone in dairy cattle: Project proceeded through planning, appointment of graduate student, arrangement for cows at University. The project was subsequently abandoned when the manufacturer decided, in reaction to public feedback against growth hormone research, not to provide growth hormone for the project.

10. Follicular IGF-I in postpartum beef cows: cooperative study with Dr.J. Manns at University of Saskatchewan - at data analysis stage.

11. Analysis of the effects of OPP on the growth of lambs and ewe reproduction.

12. Field testing of the progesterone "preg check" kit and its use in increasing reproduction efficiency.

Livestock Entomology

1. Continuing study of the incidence of black fly larvae in tributary streams.

2. Continuing evaluation, in cooperation with service boards in the County of Athabasca and I.D. 18 (Lac La Biche) and the Lakeland Forage Association, of on-farm methods for protection of livestock from biting fly attacks.

3. Continuing field trials to evaluate permethrin pour-on treatment for the control of keds in sheep.

4. Study of pour-on synthetic pyrethroid products for control of mosquitoes and biting flies in the Tofield-Ryley area.

5. Continuation of evaluation of self-treatment oilers for application of ectiban for control of biting flies in cattle, with data to support pending registration.

6. Initiated trials, in cooperation with Olds College and the Angora Performance Test patrons, to test products for lice control in goats.

7. Continued survey of feed lots in central Alberta for presence of culecoides varipenis, as a possible vector for blue tongue in imported feeder cattle.

8. Analysis of the 1987-88 warble control program.

9. Alberta cattle grub control program towards eradication of Hypoderma species - a twenty year analysis, 1968-88.

Feeding and Nutrition

1. Ruminant Feed Evaluation Unit.

2. Cooperated with the U. of A. in an ammoniated HM barley project that was financed through the ARI matching grants program. Sherritt Fertilizers was the corporate contributor.

3. Completed the experiment on the use of canola meal and canola oil for finishing cattle diets.

4. Continued work on the nutrition quality of native range in the Peace River region.

5. Participated in a second on farm demo on "Heap Silage".

6. Initiated an experiment to determine the effects of whey powder and probiotics in swine starter diets.

7. Initiated a study to determine the amino acid content of pea varieties.

8. Participated with Ag Canada in an evaluation of the "Silawrap" technique for storing high moisture forage in round bales.

9. Continued to assist with an on farm demo pasture project for dairy cows.

10. Participated with Region 3 staff in an on-farm feed mixing survey and a frequency of feeding feedlot cattle trial.

11. Participated with Region 5 in a feedlot bloat study.

12. Studies on the variation in chemical composition of canola sampled from different canola crushing plants in western Canada.

13. Evaluation of silage preservatives and their effects on growth performance in feedlot cattle.

14. Predicting nutrient requirements for different classes of livestock using gain and intake: comparison with NRC recommendations.

15. Comparison of sorghum and barley silage for feedlot cattle.

16. The effect of creep fed protein meal on gain of suckling calves on pasture.

17. The frequency of feeding and its effects on feedlot cattle.

Animal Growth

1. Analysis of relationships between weight, age and scrotal measurements in commercial and test station bulls.

2. Studies on growth by reimplanting heifers with Ralgro and Synovex.

3. Effects of spaying and implanting heifers with Ralgro and Synovex on weight gains in feedlot.

4. The analysis of technician differences in the measurement of probe backfat thickness in pigs of differing sizes.

5. Analysis of weight and mature size in beef cattle by using non-linear growth models.

6. Analysis of growth trends and feed treatment differences in chinchilas.

7. Predicting scrotal measurements from size and age in Gelbvieh bulls.

8. Studies on scrotal measurements and their prediction by weight among test station rams.

Animal Production and Management

1. Production levels and management practices of cow-calf producers in north central Alberta.

2. On-farm demonstration of systematic beef herd management as a tool for improving herd productivity and farm income, second year of a three year project.

3. Survey on the prevalence and intensity of the eyeworm (Thelazia skrajabini) among dairy and beef cattle in Alberta.

4. Effects of Equvalan, Benzelmin and Strongid+ on the incidence of internal parasites (strongids) in horses.

5. Effect of a single treatment of Ivermectin on weight gains of yearling steers on pasture in central Alberta.

6. Surveys on internal nematode parasites in beef and dairy cattle.

7. Analysis of mortality levels in commercial chicken barns due to diseases.

8. Effects of ventilation, temperature, ammonia and carbon dioxide concentrations on mortality levels in commercial chicken barns in winter/spring.

9. Disease investigation in a commercial swine unit: analysis of growth and mortality among pigs on four commercial rations.

10. Studies on individual somatic cell counting on milk producer mastitis control in Alberta dairies: evaluation of the success of programs.

11. Studies on reducing OPP status in ewes by selection of ewes and cross fostering of lambs.

12. Comparison of outdoor rearing facilities for swine based on weight gain and days to market.

13. Disease status and its effects on bull performance in test stations.

14. Experiments on the effects of castration/dehorning or both on the growth and recovery of feedlot cattle.

15. The use of pig toys to control aggression and growth rate in pigs - a preliminary study.

16. The effect of breed, sex, birth weight and time of birth on cold hardiness in straight bred or crossbred cattle.

17. Comparison of blood component counting methods in different animal species.

Others

1. Studies on the effects of fungicides and rotation, on yields of low and high aschochyta tolerant varieties of field peas.

2. Effects of inoculation on yields of field peas.

3. Results from the screening of pea varieties in five locations in north central Alberta.

4. Phosphate fertilization and its effect on yields of field peas.

5. Nitrogen fertilization and its effect on yields of field peas.

6. Varietal comparison on barley.

7. Yield responses to nitrogen fertilization and copper tolerance levels in barley.

IV. TECHNOLOGY TRANSFER

Branch staff were involved in enhancing the process of incorporating improved husbandry practices on farms through their extension activities. Producer meetings, personal correspondence and contacts, mass media releases, newsletters, factsheets and on-farm demonstrations were used to distribute livestock information to primary producers, industry, the general public and other government agencies. Technology transfer continued to be the major activity of branch staff.

A. Workshop, Extension Meetings and Field Days

The branch organized and/or participated in a number of other major ways in numerous conferences, seminars, meetings, workshops and field days, including such major events as Alberta Beef Symposium, Managing Agricultural Technology for Profit, Alberta Dairy Seminar, Alberta Pork Congress, Alberta Pork Seminar, and the Feed Industry Conference.

CattleSim was developed and used as a major beef marketing teaching tool by regional staff.

More than a dozen bull evaluation workshops and seminars were run again this year to emphasize the importance of reproductive evaluation of bulls in the reproductive performance of the herd. The branch staff also spoke at many local extension meetings which were organized by regional and district staff on many different aspects of livestock production. Staff also spoke at several meetings that were organized by industry and agribusiness.

In-service workshops on integrated beef herd management and livestock pest control were conducted for agricultural fieldmen, district agriculturists and other department staff.

Twenty-two meetings on systematic beef herd management was the one major topic resourced by branch staff. Some of the other topics addressed by branch staff at various extension meetings included: tripartite stabilization; sheep and goat production; genetic engineering and its application to agriculture; various aspects of beef dairy and sheep reproduction; planning on-farm demonstration projects; livestock pest control; sheep flock performance records; breed selection; cross breeding programs; sire selection; predator control; black fly control; and options in livestock marketing.

In dairy nutrition, topics that were resourced included silage making, feeding systems, feeding high producing cows and using condition scoring. Using field peas was a topic in demand at several swine extension meetings, as was the use of lysine in swine diets. In the area of ruminant nutrition, the demand for sheep information increased, while the demand for beef presentations decreased.

In total, branch staff were involved as speakers in at least 150 meetings, conferences, field days, workshops, etc. Although the topics presented were wide ranging, it is becoming apparent that the overall extension program is becoming more targeted.

B. Mass Media Presentations

Branch staff were active in preparing news releases and information articles on various beef and sheep production topics for radio and the popular press. At least 40 articles were prepared for the department's Agri-News, for the radio program (Call of the Land), newspapers and/or trade magazines. Twenty papers were prepared for scientific journals and published proceedings. Four videos were prepared to cover a variety of nutrition and reproduction topics.

The branch published one producer newsletter, Sheep Footnotes, on a regular monthly basis during the year. It continued to publish a biannual beef and sheep research update newsletter, primarily for department staff.

The major emphasis in publications was the production of the revised Beef Cow-Calf Manual. Work started on reference binders and study guides for beef feedlot and sheep.

C. Requests for Service

Responding to individual requests from department staff, producers, other government departments, agribusiness, veterinarians, private consultants, local governments, Agriculture Canada and the research community continued to be a major component of the branch's extension efforts.

Requests ranged from very specific to general in nature and included topics related to virtually all aspects and species of livestock.

V. STAFF DEVELOPMENT

Branch staff attended a number of workshops, seminars, courses and professional society meetings during the year. The purpose was to improve personal, professional and managerial skill and to keep abreast of new subject matter developments in the areas of livestock production. There continued to be a considerable emphasis on improving expertise in the use of computers.

VI. STAFF CHANGES

Don Scheer remained on secondment to the Crow Benefit Offset Program. There were no changes in permanent staff during the year.

DAIRY PROCESSING BRANCH

OVERVIEW

Total milk supply was up slightly from the previous year. Fluid milk sales, on a per capita basis, continued to improve but were still below the level of previous years. Better quota management by producers resulted in no milk being shipped out of the province during the "flush" season. During this time, the milk drying plants and some cheese manufacturing plants were operating at near maximum capacity.

Amendments to the Dairy Industry Act and a new regulation under the Act were proclaimed during the year. Included in the amendments to the Act were provisions for the licensing of pasteurizer operators, the establishment of a special fund for the protection of producers for the payment of milk or cream supplied by them to a dairy manufacturing plant and a number of other changes to bring the Act up to date.

The changes to the regulation were more substantive and included requirements for the production of milk, its grading and transportation, the pasteurization of dairy products, standards of composition and quality for dairy products and provision for new dairy products. Much of this had been included in regulations under the Public Health Act.

Dairy Manufacturing Plants

The renovation and modernization of most plants continued in varying degrees of complexity. A high level of interest continued for the establishment of dairy manufacturing plants, particularly for the manufacturing of ice cream, cheese and the use of goat's milk. Although several enquiries were received, only two applications were made because of high cost and uncertainty of milk supply.

One application, for the manufacture of cream cheese using the ultra-filtration process, was approved for a Lethbridge plant. The other, for manufacturing cheese on a producer's farm in southern Alberta, was not approved.

Existing plants continued to investigate the addition of product lines to their operation. In addition to the cream cheese mentioned above, fluid milk plants introduced 1% milk to the market. One firm commenced the processing of dairy cordials to coincide with the Christmas season. Others added additional cultured dairy products or frozen dairy products. Two new designs of SL-ICE cream were introduced, one featuring the face of a tiger and the other a head of "Rudolph", complete with a red nose, to follow on the success of the panda SL-ICE cream.

The new fluid milk plant in the northeast part of the province commenced operation and packaged all of their products in plastic jugs. Other fluid milk processors marketing in the area also introduced the plastic jugs in response to wide spread consumer acceptance of this new package.

The Pincher Creek Co-operative Association Ltd. closed its creamery division, one of the two remaining plants that relied on farm separated cream. The creamery had approximately 15 shippers when it closed. These cream producers have the option of shipping to the Central Alberta Dairy Pool.

Central Alberta Dairy Pool has consolidated its butter manufacturing into its Red Deer plant. Farm separated cream is received at the branch plants and forwarded to the main plant.

An independently operated plant in the Crowsnest Pass area discontinued the processing of fluid milk to concentrate on the manufacture of mozzarella cheese.

The major program introduced a year ago for the inspection and testing of milk pasteurization units continued as high priority. All components of the pasteurizers are inspected and subjected to a variety of tests to ensure that all dairy products processed through them are effectively pasteurized and that the pasteurized products cannot be contaminated with raw product. Most plants have completed the necessary modifications and have had the units approved. A few are awaiting the final inspection. The plants had to have the pasteurization units approved by the end of the calendar year 1988 or to have negotiated completion date to be eligible for the 1989 license. The cooperation from and interest by the industry has been exceptionally good. Alberta is one of three provinces actively involved in a pasteurizer inspection program.

As all operators of pasteurization units must be licensed, the branch has prepared a Pasteurizer Operator training and testing program using the Pasteurizer Operator Manual as the main study guide. Nine courses are scheduled throughout the province for early in the new fiscal year. Over 180 operators have applied for the courses. After successfully passing an examination, pasteurizer operators are eligible to apply for a Pasteurizer Operator License. Alberta is the only province presently requiring that operators of pasteurizer units be licensed.

Plant inspection programs were continued to ensure compliance of all Alberta dairy manufacturing facilities and their products with existing regulations.

The Dairy Processing Branch continued to participate in the federal in-depth plant inspection program. Most of the fluid milk processing plants are newly built or recently renovated and continue to receive high scores upon inspection.

The branch also continued to participate, and represent the four western provinces, on a committee to review and update the plant inspection program. This is the first major review since the program was introduced in 1971. The committee members represent provincial and federal governments and the dairy industry.

Current positions and comparative data for last year is as follows:

	1987-88	1988-89
Alberta Average Plant Score	84.3	83.3
National Average Plant Score	82.2	80.2
Lowest Scoring Plant in Alberta	72.7	75.8
Highest Scoring Plant in Alberta	98.6	98.4

Dairy Products

Bacteriological and compositional standards of fluid and manufactured dairy products remained very high and substantially higher than the regulatory minimum. The branch continued to concentrate on milk product keeping quality as reflected by a stressed product test as the yardstick by which quality was measured. This more stringent test is necessary since products must remain fully acceptable to consumers after sometimes lengthy period in the distribution system, not always under ideal storage conditions. Dairy processing specialists investigated isolated lapses in quality rather than chronic difficulties in producing satisfactory products.

Virtually all freshly processed milk met health standards. After subjection to severe conditions (7 days at 7°C), 76.3% were still within requirements of the regulations. The branch continues to work towards 100% compliance at both levels.

Licensing

Licenses Issued	1987-88	1988-89
Milk and Cream Graders & Testers	77	58
Cream Graders	65	36
Plant Milk Graders	117	112
Bulk Tank Milk Graders	242	235
Dairy Manufacturing Plants	49	47

Regulatory

Dairy Processing Specialist activities in regulatory functions were:

	1987-88	1988-89
Dairy Plant Inspections	508	562
Cream Grades Checked	1216	775
Cream Grades Adjusted	0	0
Cream Tests Checked	738	606
Cream Tests Adjusted	0	0
Bulk Tank Trucks & Drivers Inspected	208	163

Margarine

The branch's responsibilities under the Margarine Act were carried out at a similar level of activity as in previous years. Margarine produced and/or sold in the province was sampled and analyzed throughout the year and found to comply fully with compositional requirements.

Regulatory Enforcement

Two main incidents occurred during the year. A number of restaurants were found to be using a sour topping/sour dressing as a substitute for sour cream. The product was being distributed by six firms in the province. All parties were unaware this was an illegal product and all agreed to discontinue it.

The other incident involved imitation cheese, mainly imitation Mozzarella, for use in pizza parlours. Substantial quantities were being imported from the U.S. - shipments ranged from 11,000 to 20,000 pounds each, but could never be found at a central warehouse location. Numerous pizza parlours were found to be using the product often unaware of its illegality. The offending distributor assured the department he would discontinue importing this product. Despite this verbal assurance he continued importation. Some product has been seized and the branch is in consultation with the Crown Procecutor's office.

There are continued attempts to market imitation dairy products in contravention of the Dairy Industry Act. As well as infringing on the Dairy Industry Act, methods used by promoters frequently contravened other regulations, e.g. those of the Health Protection Branch and Consumer and Corporate Affairs.

Extension

Dairy processing specialists worked closely with dairy processors in the implementation of technological changes and in broadening the range of dairy processing in the province.

A major extension activity in recent years has been a voluntary certification program for dairy plant employees to assist in attaining improved quality through increased education and awareness. Lower turnover of staff in most dairy plants accounts for the reduction in issue of Dairy Plant Worker certificates. The awarding of certificates in specialist categories such as Cheesemaker and Plant Sanitarian has remained steady.

The licensing of Milk and Cream Graders and Testers, and Bulk Milk Graders is a legislative responsibility of this branch. In view of the important role of the Bulk Milk Grader in the collection of samples by which the producer is paid, especially since the introduction of the milk grade and price program, the branch has increased emphasis on testing, retesting and inspection of Bulk Milk Graders.

With the amendments to the Dairy Industry Regulation, it was felt necessary to revise the Bulk Milk Hauler's Manual, the study guide used for the training and testing of the licensed bulk milk graders who pick up milk at the farm level.

Together with Agriculture Canada and the Alberta Dairymen's Association, the processing branch continues to be active in sponsoring and judging dairy product quality competitions. Most competitions are based on monthly samples. Winners are recognized annually at the Dairymen's Convention.

In June, the American Dairy Science Association (A.D.S.A.) held its 83rd Annual Meeting at the University of Alberta. Over 1,700 registered for this meeting which was the second time the A.D.S.A. has met in Canada. Branch staff actively participated in the organization of this event through representation on the Local Planning Committee and a number of sub-committees for specific events.

Special Projects

The principle activity of Special Projects early in the year was the introduction to the industry of amendments to the Dairy Industry Act and relevant changes in the Dairy Industry Regulations under the Act.

Other activities related to the investigation of the imitation dairy products situation; preliminary discussions on revising the Margarine Act; ongoing consultation with industry on regulatory and legislative matters; and investigating and assisting in the resolution of problems associated with the dairy industry.

Some time was devoted to aquaculture on behalf of the department. The branch provides a resource person to develop and maintain a close working relationship with the private and public sectors and to respond to requests for information.

TABLE I Estimated Production and Value of Factory Dairy Products
April 1988 - March 1989

The following table shows the quantity, price and value of dairy products manufactured or processed in Alberta dairy manufacturing plants during April 1988 to March 1989, with corresponding figures for 1987-88 added to provide a means for comparison.

	Year	Quantity '000	Price $	Value $ '000
Creamery Butter (kgs)	1988-89	5,972 kg	4.406/kg	26,315
	1987-88	7,062 kg	5.461/kg	38,566
Cheddar Cheese (kgs)	1988-89	6,032 kg	6.566/kg	46,891
	1987-88	6,836 kg	6.714/kg	45,897
Variety Cheese (kgs)	1988-89	5,438 kg	6.046/kg	32,878
	1987-88	5,427 kg	5.906/kg	32,052
Ice Cream (litres)[1]	1988-89	29,425 L	1.930/L	56,790
	1987-88	29,695 L	1.860/L	55,233
Fluid Milk Sales (litres)[2]	1988-89	239,594 L	.809/L	193,832
	1987-88	218,474 L	.800/L	174,779
Fluid Cream Sales (litres)	1988-89	10,260 L	2.838/L	29,120
	1987-88	10,146 L	1.570/L	15,929
Fluid Buttermilk and Chocolate Milk (litres)	1988-89	16,693 L	1.048/L	17,474
	1987-88	38,360 L	.862/L	33,066
Miscellaneous Manufactured Products	1988-89			118,745
	1987-88			119,597
TOTAL	1988-89			522,045
	1987-88			515,119

[1] Includes hard and soft ice cream.

[2] Skimmilk is included in these figures for 1988-89.

[3] Includes concentrated milk products, cottage cheese, whey cheese and yoghurt.

TABLE II Alberta Dairy Statistics 1960-1988

YEAR	TOTAL MILK	ICE CREAM		BUTTER	
	1,000,000 of Units	Production '000	# Plants	Production '000	# Plants
1960	1,650 lb	3,623 gal	18	37,338 lb	86
1965	1,641 lb	5,242 gal	16	36,562 lb	81
1970	1,529 lb	5,634 gal	16	29,311 lb	59
1973	1,396 lb	6,332 gal	15	23,282 lb	46
1974	1,284 lb	6,588 gal	16	18,695 lb	36
1975	1,276 lb	6,671 gal	16	20,587 lb	33
1976	1,273 lb	6,713 gal	14	17,843 lb	25
1977 (1)	1,251 lb	6,835 gal	11	18,342 lb	19
1978	426 L	31,859 L	10	6,946 kg	19
1979	450 L	30,343 L	10	7,117 kg	18
1980	480 L	31,906 L	10	7,863 kg	16
1981	528 L	27,873 L	8	8,260 kg	13
1982	585 L	27,797 L	8	8,475 kg	13
1983	564 L	30,891 L	8	7,800 kg	13
1984	584 L	31,457 L	9	8,161 kg	11
1985	562 L	31,287 L	10	6,372 kg	11
1986	579 L	31,108 L	10	7,409 kg	11
1987	589 L	29,695 L	11	7,062 kg	11
1988	609 L	30,064 L	15	7,019 kg	6

(1) Prior to 1977, yearly totals were calculated on a calendar year basis. From 1977 to date all figures are based on a fiscal year basis (April 1 to March 31).

Alberta Dairy Statistics 1960-1988

CHEDDAR CHEESE		VARIETY CHEESE		FLUID MILK SALES (2)
Production '000	# Plants	Production '000	# Plants	'000
1,760 lb	7	---		382,835 lb
2,188 lb	6	---		384,754 lb
3,357 lb	6	155 lb	3	414,034 lb
4,768 lb	6	913 lb	4	451,516 lb
4,884 lb	6	2,186 lb	6	466,816 lb
6,307 lb	7	2,406 lb	6	468,599 lb
6,872 lb	7	3,161 lb	6	175,219 qt
8,013 lb	6	4,557 lb	6	197,238 L
3,935 kg	6	2,386 kg	8	202,171 L
3,649 kg	6	3,007 kg	11	248,936 L
3,921 kg	6	3,159 kg	11	263,016 L
3,599 kg	6	3,321 kg	11	270,931 L
4,023 kg	6	3,651 kg	10	269,783 L
4,160 kg	6	3,533 kg	10	261,411 L
5,768 kg	6	3,787 kg	10	256,798 L
6,315 kg	6	5,220 kg	10	256,032 L
6,822 kg	6	5,022 kg	10	256,989 L
6,836 kg	7	5,427 kg	9	266,980 L
7,316 kg	7	5,505 kg	11	256,287 L

(2) Includes Homo, 2%, 1%, Chocolate, Skimmilk, Buttermilk and Eggnog.

DAIRY PRODUCTION BRANCH

The Dairy Production Branch responsibilities included dairy farm inspection, milk quality assurance and support for or coordination of extension activities, advisory services and research pertaining to the dairy industry. Milk recording for purposes of improving dairy herd management on Alberta dairy farms is supported through a grant to Alberta Dairy Herd Improvement Services.

Dairy Farm Inspection

Inspection and advisory services were provided to Alberta milk producers in the areas of milk quality, milk production, equipment standards and construction and upgrading of dairy facilities.

Dairy Farm Inspection staff performed 3,281 farm inspections in 1988-89, and an additional 1,832 farm consultations.

The new Dairy Industry Act and Regulation came into force June 1, 1988. One of the most important aspects of the new legislation was the requirement that all producers meet a single quality and premises standard as of August 1, 1988. The few remaining producers who had not met the higher standards earlier on a voluntary basis either completed the upgrading or ceased operations prior to August 1, 1988. As of December 31, 1988, there were 1,464 milk producers, down from 1,502 a year earlier, which was consistent with recent trends in producer numbers.

A total of 36,407 milk samples were analyzed for compliance with current milk quality standards. During the twelve month period ending March 31, 1989, the Milk Grade and Price Program recorded 70 standard plate count infractions; 20 freezing point infractions; 81 inhibitor infractions; and 117 somatic cell count infractions - totalling 288 infractions.

A non-compliance rate of 3.3% was achieved, a further improvement from 3.8% the previous year. However, 49 loads of milk were destroyed due to inhibitor contamination - an increase of 15 loads compared to 1987-88.

The Milk Grade and Price Program and advisory services provided to producers contributed to the excellent quality of milk produced in Alberta in 1988-89. The milk processors, through farm service programs, continued to support milk quality improvement on dairy farms.

Funds collected from producers resulting from milk grade deductions were allocated to pay innocent producers for lost milk, to compensate milk transport operators when confirmation was required for suspicious inhibitor positive loads and for the disposal of loads which tested positive. Funds remaining were distributed to milk producers on a monthly basis by the Alberta Dairy Control Board.

Bulk milk somatic cell counts continued to be monitored and advisory assistance was provided to reduce the incidence of mastitis in dairy herds. Bulk milk tank somatic cell counts averaged 283,828 cells per millilitre - a significant improvement of 30,000 cells per millilitre as compared to 1987-88.

The Award of Excellence, sponsored by Alberta Agriculture, was introduced in 1986 to recognize dairy producers for excellence in quality milk production and maintenance of dairy premises. The Award of Excellence was presented to 216 milk producers at the Annual Alberta Dairymen's Association Convention in February 1989, as compared to 76 in the first year of the program. The response by the milk producers of Alberta has been excellent.

TABLE I The following table summarizes the activities of Dairy Farm Inspection. Comparisons are based upon April 1 to March 31 year basis.

	1987-88	1988-89
Number of Certified Milk Producers	1,495	1,464
Number of Industrial Milk Producers	7	N/A
TOTAL PRODUCERS	1,502	1,464
Inspections of Dairy Farm Premises	3,304	3,281
Non-Inspection Dairy Farm Calls	1,819	1,832
TOTAL FARM CALLS	5,123	5,113
TOTAL RAW MILK SAMPLES ANALYZED	36,743	36,407
Quality of Milk Samples Analyzed		
Fluid Milk Samples Non-Compliance (75,000/mL S.P.C.)	3.8%	3.3%
Industrial Milk Samples Non-Compliance (200,000/mL S.P.C.)	8.0%	N/A
Industrial Milk Samples which met Fluid Milk Standards	84.0%	N/A
Average Somatic Cell Counts - Fluid	313,908	283,828
(Leucocytes) - Industrial	547,194	N/A
Number of Infractions - SPC	97	70
- Inhibitors	72	81
- Cryoscopic Analysis	16	20
- Somatic Cells	N/A	117
TOTAL INFRACTIONS	185	288

Number of Infractions per Producer:

	1984-85	1985-86	1986-87	1987-88	1988-89
1 Infraction	199	179	153	133	184
2 Infraction	73	64	63	38	60
3 Infraction	33	19	19	10	27
4 Infraction	7	10	7	2	11
More than 4	4	2	6	2	6
	316	274	248	185	288

TABLE II Estimated Farm Value of Alberta Milk Production April 1988 - March 1989

The quantity, price, value and utilization of milk production during April 1988 to March 1989 are reported in the following table. To indicate changes from the previous year, 1987-88 figures have been included.

	Year	Butterfat Production '000 kg	Milk Equivalent '000	% of Total	Prices $	Value $'000
Butterfat for Creamery Butter	1988-89	750	20,844 L	3.42	4.630/kg	2,695
	1987-88	684	19,542 L	3.32	4.610/kg	3,153
Milk Purchased for the Manufacture of Powder and Butter	1988-89		117,744 L	19.30	40.81/hL	48,056
	1987-88		115,527 L	19.60	39.93/hL	46,130
Milk for Cheesemaking	1988-89		130,403 L	21.42	40.87/hL	53,294
	1987-88		119,496 L	20.27	39.93/hL	47,715
Milk for Concentrating and Milk & Butterfat for Ice Cream & Misc. Products	1988-89		62,562 L	10.28	42.65/hL	26,683
	1987-88		57,182 L	9.70	41.63/hL	23,805
Milk Purchased for Fluid Purposes	1988-89		260,576 L	42.81	50.46/hL	131,489
	1987-88		260,119 L	44.13	47.89/hL	124,571
Skimmilk Kept on Farms	1988-89		17,821 L	2.93	22.19/hL	3,954
	1987-88		17,588 L	2.98	18.38/hL	3,233
Estimated Federal Subsidy	1988-89					18,637
	1987-88					21,043
TOTAL	1988-89	609,950				284,808
	1987-88	589,454				269,650

1 Includes milk used for the making of cottage cheese.

2 Does not include butterfat from creamery butter used in the manufacture of ice cream.

TABLE III

Milk Cow Numbers

Year	No. Cows June 1st	Year	No. Cows June 1st
1950	297,800	1978	148,000
1955*	285,000	1979	135,000
1960	279,000	1980	138,000
1965	262,000	1981	142,000**
1970	198,000	1982	158,000**
1973	169,000	1983	157,000**
1974	169,000	1984	157,000**
1975	170,000	1985	150,000**
1976	152,000	1986	152,000**
1977	155,000	1987	130,000**
		1988	128,000**

* From 1955 forward, average butterfat test 3.5%; previous years were 3.6%.

** Census figure as of January 1 of that year.

Milking Management

A milking equipment evaluation unit was developed. This unit will be used to evaluate various milking equipment components and improving test procedures.

The Dairy Computer Software Evaluation Committee was established to evaluate existing dairy software packages and report the findings to Alberta dairy producers. The committee will also coordinate the development and evaluation of in-house dairy software packages.

Branch staff presented three papers at the 1988 American Dairy Science Association convention: 1) Milk Metering vs Dipstick Method of Measuring Milk in Farm Bulk Milk Tanks in Alberta, 2) The Effect of the Introduction of Monthly Individual Cow Somatic Cell Counting on Milk Producer Mastitis Control Procedures and on Bulk Tank Somatic Cell Counts, and 3) Effects of a Hydraulic Milking Device on Cow Management.

Milk Metering - Analysis of data derived from our evaluation of milk metering technology indicated that average meter readings can vary by up to ±50 litres when compared to the average "dipstick" reading on some farms. Some technical problems with milk metering systems were identified which caused milk measurement errors. The study also indicated that the accuracy of dipstick measurement is also a problem. Accurate and fair measurement of milk is important and further investigation of this discrepancy is planned.

An outbreak of Nocardia spp. mastitis affected 118 cows on 45 Alberta dairy farms during 1988. Prior to this, Alberta only had one confirmed case in 1985. Other regions of Canada experienced a similar phenomenon. This severe form of mastitis did not respond to antibiotic therapy. Most cows were culled soon after they became infected. A warning was issued to producers concerning the use of intramammary antibiotic therapy.

A total of 79 equipment analyses were completed by the two milking management specialists. Fifty-two new or updated milking systems were evaluated. Another 24 calls were completed for stray voltage problems. Milking equipment washing problems accounted for 26 farm calls and 19 farm calls were made for consultation on proposed milking system upgrades.

Milk Recording

Alberta Dairy Herd Improvement Services became responsible for all data processing and control functions as of April 1, 1988. Delivery of field services to participating dairy producers had been transferred from Alberta Agriculture to Alberta Dairy Herd Improvement Services in 1984.

During the year, the Alberta dairy producers who had been enrolled on the Federal Record of Performance program were converted to the Alberta Dairy Herd Improvement computer program. This conversion brought all milk recording participants in Alberta under one program. Agriculture Canada supports the operations of Alberta Dairy Herd Improvement Services through an annual grant.

The Dairy Production Branch, in addition to providing Alberta Agriculture's grant to Alberta Dairy Herd Improvement Services, is responsible for computer costs and coordination of extension services related to the use of the milk recording data by Alberta producers.

There were a total of 889 milk recording participants in Alberta as of December 31, 1988. Of that total, 18,637 cows in 263 herds were enrolled on the supervised program at a cost of $20.00/cow/year. Of this number, 135 herds had been converted from the Federal Record of Performance program during the year. A total of 626 herds with 40,181 cows received owner-sampler services from Alberta Dairy Herd Improvement Services at a cost of $5.80/cow/year. Monthly somatic cell counting for individual cows was provided to 741 producers at a cost of $2.00/cow/year.

Average yearly production per cow on milk recording was 7,195 kg of milk, 253 kg of milk fat and 230 kg of protein. These levels of production convert to the following BCA's - 155 milk, 146 milk fat and 156 protein. The average cow had a 13 month calving interval and contributed to the herd for 2.6 lactations.

TABLE I HERD ENROLLMENT

	OFFICIAL		OWNER/SAMPLER	
BREED	NO. HERDS START OF YEAR	NO. HERDS END OF YEAR	NO. HERDS START OF YEAR	NO. HERDS END OF YEAR
Ayrshire	0	13	4	4
Brown Swiss	1	2	3	2
Guernsey	2	2		
Holstein	123	210	623	611
Jersey	3	16	14	9
TOTAL	129	263	644	626
AVERAGE HERD SIZE	74	71	63	64

TABLE II

ANIMAL ENROLLMENT

	OFFICIAL				OWNER-SAMPLER			
	NO. OF ANIMALS ENROLLED				NO. OF ANIMALS ENROLLED			
BREED	REGISTERED	NIP A OR HIGHER	NIP U OR GRADE	TOTAL	REGISTERED	NIP A OR HIGHER	NIP U OR GRADE	TOTAL
AYRSHIRE	650	27	6	683	87	9	90	186
BROWN SWISS	74	3	6	83	34	19	114	167
GUERNSEY	46	2		48	3	6	16	25
HOLSTEIN	8,806	7,034	1,209	17,049	2,212	19,899	17,317	39,428
JERSEY	682	26	24	732	98	31	168	297
SHORTHORN						1	2	3
OTHER			42	42			75	75
TOTAL	10,258	7,092	1,287	18,637	2,434	19,965	17,782	40,181

TABLE III

SEMI-ANNUAL REGIONAL DHI PRODUCTION SUMMARY

(BASED ON DAIRY HERD IMPROVEMENT PRODUCTION RECORDS AS OF DECEMBER 31, 1988)

REGION	# OF HERDS WITH RHA*	# OF COMPLETED RECORDS	305 DAY PRODUCTION (kg)			305 DAY BCA*			CALVING INTERVAL (months)	AVG. AGE OF HEIFERS AT FIRST CALVING (months)	AVG. # OF LACTATIONS PER COW
			MILK	FAT	PROTEIN	MILK	FAT	PROTEIN			
1. Lethbridge-Brooks	141	9,479	7450	256	236	161	150	161	12.7	27.2	2.5
2. Calgary	103	5,165	7250	259	236	159	150	162	13.2	28.8	2.7
3. Red Deer	271	13,142	7151	253	230	153	146	156	13.1	28.7	2.6
4. Vermilion	67	3,588	6704	235	215	145	137	146	13.0	28.0	2.6
5. Edmonton	248	12,610	7151	253	228	152	145	153	13.1	29.3	2.7
6. Peace River	16	1,177	7369	258	238	162	150	164	13.2	27.3	2.6
PROVINCE	846	45,161	7195	253	230	155	146	156	13.0	28.4	2.6

* RHA: Rolling Herd Average
**BCA: Breed Class Average

Resource Services

Dairy Production Branch and field services regional staff cooperated in providing a number of dairy programs and seminars across the province. Over 350 people attended a mastitis control series at four locations: Lethbridge, Olds, Leduc and Grande Prairie.

The "Alberta Dairy Producer", a monthly newsletter, continued to be a valuable source of information on production, marketing and research. New regular columns were introduced focussing on milking equipment, research and marketing.

A film entitled "A Year In The Life" was produced. The film covers dairy reproduction basics such as nutrition and heat detection. Other dairy films produced by Alberta Agriculture continue to be very popular.

The second annual Alberta Dairy Congress was a success. Approximately 1,500 people attended the two day event, which featured a trade show, educational seminars and the Western Canadian Classic dairy show.

The Annual Dairy Seminar was renamed The Western Canadian Dairy Seminar. A high quality program and a change of location to Kananaskis made for a successful event.

Concern was expressed at both producer and processor levels of the dairy industry about the possible impact of using bovine somatotropin. Consumer perception that bovine somatotropin may be harmful caused milk from cows under bovine somatotropin test in dairy research herds to be eliminated from the market.

Restructuring of the milk marketing system in the province remained unresolved with various proposals being advanced by different groups within the industry during the past year. This issue is a high priority for resolution in 1989.

Regional Activities

Branch staff were involved in the planning for a Dairy Awareness Day held in June in Red Deer. The response from the general public was very positive.

Individual consultations with producers were increased. Topic areas for consultation were ration formulation, milking management and quota.

Regional staff became more involved in dairy research through on-farm demonstrations and summarizing reports for publication.

HORSE INDUSTRY AND FEEDER ASSOCIATIONS BRANCH

INDUSTRY OVERVIEW

The demand for horses for sport and recreation continued to improve during 1988. Sales activity was strong and prices improved. Thoroughbred yearlings have returned to near 1985 prices. Price increases can be attributed to the continued decrease in production and to improvement in the economy.

	Select Breed Sales				
(Average Price $)	1984	1985	1986	1987	1988
Thoroughbred Yearling	5707	6823	6254	5260	6774
Standardbred Yearling	2292	1845	3032	5861	5490
Quarter Horse	1497	1202	1261	2171	2452

Interest in horse-related sport and recreation activities continued to improve.

In excess by 35,000 horses were processed by the two Alberta horsemeat plants which operated to near capacity. Although statistics on prices are not available, prices tended to remain in the $0.40 - $0.45 per pound range.

Pregnant Mare Urine (PMU) operators had contracts maintained at the previous year's level. Producers average a $1,000 return per mare from sale of urine. No increase in contract amounts or new contracts are expected.

Education/advisory Services

The branch provides educational and advisory services to horse owners in all areas of the province. The branch has a diverse clientele that includes primary producers who raise and market horses and horse owners who purchase and use horses for sport and recreational activities. Although priority for programs is given to the agricultural segment of the industry, education services are provided to all horse owners. A large percentage of users have limited background with livestock and require information on the proper care and handling of horses, both for their own safety and that of the horses they have.

Extension programs include conducting or supporting approximately 40 short courses throughout the province, as well as providing speakers for programs conducted by colleges and organizations.

Because of the success of the previous year's special effort to provide seminars in rural communities not normally visited, staff continued the program. A series of one-evening seminars was given in eight locations in central Alberta communities.

The branch prepared technical articles and bulletins for distribution and staff was available as resource people for colleges, veterinarians, district agriculturists, private and public loans officers and other Alberta Agriculture staff relative to horses and the horse industry.

The highlight of extension courses was the Alberta Horse Breeders and Owners Conference that was conducted in cooperation with participating breed associations. Over 225 people registered for the program which included 15 highly qualified speakers.

Horse Improvement Program

The Horse Improvement Program is an annual breeders show designed to identify and recognize superior horses, breeders and trainers in Alberta. A committee consisting of representatives from participating breeds assists with the planning. The program continues to grow and develop more prestige and significance to the industry.

In 1988, 47 classes were available for the 14 participating breeds resulting in 669 horses being evaluated. Results are computerized allowing for breeders to use the information to make selection and mating decisions. In some breeds, these results are the only performance and production records available. The publication and distribution of individual breed brochures identifying leading sires, dams and breeders were done to broaden the exposure for the program and usefulness of results.

Summary of Horse Improvement Program Entries

	1985	1986	1987	1988
American Saddlebred	15	23	19	21
Arabian	79	92	126	90
Appaloosa	62	75	69	73
Belgian	31	24	22	15
Clydesdale	25	27	25	22
Morgan	37	33	29	29
Paint	29	30	28	22
Partbred Arabian	20	18	21	24
Percheron	27	34	45	24
Pinto	32	30	31	30
Quarter Horse	99	83	128	88
Sport Horse	25	23	20	26
Walkers	16	20	15	21
Welsh Pony	15	19	19	22
Total Entries	512	531	597	504
Total Horses	666	711	797	669

The draft horse section of the program was held for the first time during Klondike Days in Edmonton and the light horse section was held during the last two weekends in September at the Westerner Fairgrounds in Red Deer.

Stallion Fertility Evaluation

Horse breeders can, through a referral by a veterinarian, have a fertility evaluation of stallions conducted by the branch in cooperation with Olds College. In 1988, eight stallions were tested.

Market Development Assistance

The branch assists in administering Market Development grants of up to $25,000 for provincial horse breed associations.

During 1988-89, 15 breed associations were provided grants totalling $93,308. Projects supported include establishing breeders sales, printing brochures, incentives for successful Alberta-bred horses, provincial futurities, participation at trade fairs and general promotion and advertising.

In cooperation with Market Development and Agri-food, branch staff coordinated the participation of 17 Alberta breeds at Equi-fair held at Spruce Meadows during the "Masters" horse show. The project involved a large horse exhibit, seminars and demonstrations. The "Sales Barn" added a new dimension to the project resulting in sales of 18 horses, some to Holland, United States and Eastern Canada as well as locally. This is the breed associations most important marketing venture of the year.

The market for western horses from Alberta continued to increase throughout Europe as many riders desire horses that are different and easy to ride and handle. The branch continues to advise breed associations and to assist in coordinating exports.

Medication Control

As a service to provincial organizations, the branch conducts drug testing at main horse shows. During 1988, 330 horses were tested during 30 days of testing, with no forbidden products being detected. The program continues to foster fair competitions and is appreciated by the horse public and associations.

Summary of Testing

	1984	1985	1986	1987	1988
No. of shows tested	17	21	21	17	21
No. of days tested	31	31	25	28	30
No. of horses tested	390	390	432	315	330
No. of blood samples	98	93	125	65	55
No. of urine samples	283	288	307	246	265
No. of positive tests	2	1	0	0	1

FEEDER ASSOCIATIONS

During the year, 55 feeder associations operated under the Feeder Associations Guarantee Act.

During the fiscal year, $163,380,158.42 worth of credit was used to purchase 261,697 cattle and 5,607 sheep. The amount outstanding as of August 31, 1988 was $73,223,765.00.

Corresponding figures from one year ago are 188,453 cattle and 5,223 sheep purchased for a total cost of $105,511,243.81 worth of credit. The amount outstanding as of August 31, 1987 was $48,737,257.00.

The total Order-in-Council limit for all feeder associations as of August 31, 1988 was $150,350,000.00. The total limit for all feeder associations for the previous year was $95,400,000.00.

1987/88 Feeder Associations Year End Report

Association	Cattle	Sheep	Total Credit
Acme	5,533		$ 3,446,907.34
Andrew	3,313		1,913,512.35
Barrhead	7,622		5,166,687.51
Bashaw	1,813		1,077,910.57
Battle River	13,996		9,082,650.93
Big Valley	4,056		2,273,641.94
Blindman	18,214		11,119,629.35
Bonnyville	2,389		1,583,029.49
Bowden	9,088		5,834,510.98
Brooks	7,797		4,688,971.34
Carstairs	3,445		2,118,235.83
Cereal	620		389,328.47
Colinton	3,052		1,729,658.72
Delburne	3,546		2,270,013.60
East Olds	10,478		6,458,879.83
Flagstaff	9,210		6,264,091.36
Fort	4,810		2,958,046.54
Fort Macleod	3,123	438	1,972,205.26
Glenwood	3,880		2,347,006.73
Grande Prairie	3,528	173	2,114,005.38
Great West	2,335		1,339,223.76
Hardisty	9,001		5,547,670.60
Highway 9	5,802		3,811,057.00
Innisfail	2,101		1,422,427.33
Lakeland	3,065		1,832,955.00
Little Bow	10,901		6,620,924.31

Association	Cattle	Sheep	Total Credit
Mannville	2,397		$ 1,368,114.12
Marwayne	7,101		4,677,177.62
McLeod River	966		608,136.79
Moose Mountain	834		500,000.00
North Peace	4,279		2,362,207.51
Northern Alberta	341		219,828.81
Paddle River	4,739		2,954,010.61
Paintearth	2,760		1,649,575.07
Parkland-Stavely	6,805		4,300,229.88
Peace Hills	241		133,841.83
Pincher Creek	3,943		2,493,892.91
Ponoka	11,136		7,011,067.74
Prairie River	2,368		1,497,291.80
Provost	1,151		695,919.36
Raven	5,342		3,362,948.35
Red Deer	18,177	4,389	11,997,469.82
Ridge	4,061		2,400,112.05
Rockyford	5,874	49	3,892,654.70
South Eastern	790		427,070.62
St. Paul	2,607		1,480,869.02
Stettler	3,057		1,901,828.57
Stony Plain	254		146,145.35
Thorsby	4,057		2,366,364.66
Wainwright	1,830		1,121,522.55
Westlock	12,653	558	7,729,463.49
Total 87-88	261,694	5,607	$ 163,380,158.42
Total 86-87	188,453	5,223	$ 105,511,243.81

Summary of Feeder Association Operations

1983-1988

Feeding Season	No. of Assoc.	Cattle	Sheep	Amount of Credit
1982-83	33	75,917	5,895	$ 32,585,619
1983-84	37	91,497	4,517	39,626,822
1984-85	36	98,287	5,255	43,699,556
1985-86	38	135,352	3,903	64,278,781
1986-87	48	188,453	5,223	105,511,243
1987-88	55	261,697	5,607	163,380,158

Feeder Associaton Statistics
(Year to Date Sept. 88 - Apr. 89)

	No. Cattle Purchased	No. Sheep Purchased	Value
Total to April/89	227,219	4,984	$ 292,239.83 130,396,108.70
Total to April/88	228,228	4,317	$ 354,002.29 141,319,773.26

New Associations

In March, 1988, approval was granted by Order-in-Council for Peace Hills Feeders Association Co-op Limited (Wetaskiwin) and Stony Plain Feeders Co-op (Stony Plain) to commence operations. In November, 1988, approval was granted by Order-in-Council for Warwick Feeders Co-operative Association Ltd. (Vegreville) and Wheatland Feeders Co-op Association (Strathmore) to commence operations. In March, 1989, approval was granted by Order-in-Council for Calgary Central Feeder Association Co-operative (Calgary), to commence operations.

PORK INDUSTRY BRANCH

The farm cash receipts from sales of hogs in Alberta in 1988 were estimated as 241 million dollars, down 43 million dollars (15%) from 1987. Total number of pigs sold for slaughter in Alberta increased by 12.2% from 1987, and the annual average price for 100 index hogs-dressed in Alberta declined 25% to $1.269/kg from $1.685 in 1987. As a percentage of total farm cash receipts, income from hogs declined from 7.2% in 1987 to 5.6% in 1988 in Alberta. Net exports of pork for Canada rose by 3% and exports of live hogs rose by 139% in 1988 compared to 1987. For Canada, 552 million pounds of pork were exported (after deducting imports of 26,000 lb.) and 651,000 live pigs were exported in 1987. The net pork and live hogs exports amounted to about 32% of Canada's total production, as in 1986 and 1987. Live hog exports from Alberta in 1988 were estimated as 436,500 head or 19% of production and 50% of Canadian live hog exports. The five month strike at Fletcher's in Red Deer in 1988 was a factor in these high live export numbers. Most of Canada's pork exports (84%) and almost all of the live hogs exports were to the U.S. Because of health restrictions, no live slaughter hogs are imported into Canada.

The number of active hog operations in Alberta in 1988 was about 6,700. The number of pigs marketed for slaughter of Alberta origin in 1988 were 2,290,529, an average of 342 per operation. On April 1, 1988, the Alberta breeding herd was reported to be 186,000 head and on April 1, 1989, it was reported to be 170,000, a drop of 8.6%. Total pigs on farms in Alberta on April 1, 1989, was reported as 1,580,000, 9.7% below the previous year.

Alberta's share of Canada's pig inventory on April 1, 1989, was 14.9% compared to 16.3% in 1987.

Average hog prices in 1988 in Alberta were $0.416 per kg below that of the previous year and ranged from $1.016/kg (week ending December 2) to $1.589/kg (week ending June 10 in 1988 as weekly averages. The range (highest minus lowest price) in weekly averages was $0.573/kg in 1988 compared to $0.854/kg in 1987. The Alberta average price in 1988 was $0.1210/kg below that of Ontario; in 1987, this spread was less, at $0.0700/kg.

Weekly hog sales in Alberta by the Alberta Pork Producers Development Corporation ranged from 37,000 in February to about 47,000 in September in 1988, averaging 44,135 weekly for the year, compared to 38,439 in 1987.

The number of hogs slaughtered in Alberta in 1988 were 1,509,465 in federally inspected plants and 54,309 in provincially inspected plants, a total of 1,563,774, down 11.2% from 1987, and making up 10.5% of the Canadian total slaughter of 14,875,606 head. Average slaughter weight in Alberta was 79.5 kg in 1988 compared to 78.1 kg in 1987, and compared to the 1988 Canadian average of 79.6 kg. In 1988, 1.18% of pigs graded in Alberta were sows, compared to 1.66% in 1987 and compared to 1.53% for Canada for 1988. The average market index for Alberta hogs was 102.6 in 1988.

The national tripartite stabilization program scheme for hogs provided protection from low prices to producers during the year. The following is a summary of the program by quarter:

Quarter	Produer Premiums $/hog	National Average Price $/CKG	National Average Cash Costs $/CKG	Support* Level $/CKG	Payouts $/CKG	Payouts $/hog
Q1, 1988	3.00	139.11	95.81	143.05	3.94	3.14
Q2	2.60	147.41	97.36	145.21	None	None
Q3	2.90	136.58	104.62	166.58	30.00	23.53
Q4	2.60	122.11	123.38	168.80	46.69	37.08
Q1, 1989	2.60	121.84	128.78	169.81	47.97	38.24

* 1988 Support level = national average cash costs plus 93% of the average difference between the national average price and national average cash costs in the same quarter for the past 5 years (i.e. 1983 through 1987).

* 1989 Support level is calculated similarly except that 95% is used instead of 93%.

At year's end, 3,897 Alberta producers were enrolled, and hog production enrolled was about 92% of Alberta's total. Payouts were made for quarter 1, 3 and 4 of 1988 for a total of $32.6 million to Alberta producers. A further $20 million is estimated to be payable for the first quarter of 1989. The national fund for hogs was estimated at over $120 million at the beginning of the year and $64 million at year's end for the four provinces (Alberta, Saskatchewan, Manitoba, Ontario) in the program last year. When Q1, 1989 payouts are made, a fund deficit will occur for the first time.

The tripartite agreements for red meats were revised effective January 1, 1989 and subsequently all provinces except Newfoundland joined the hog plan. Changes to the hog plan included allowing top loading

subsidies to limits based on percent of hog cash receipts by province and the province's share of national hog production, a change in margin guarantee to 95% (from 92% or less), coverage for all production (including exports) and exclusion of hogs grading 80 index, as well as other minor changes.

The Pork Industry Branch provided information and programs for swine producers, agriculture processors and swine industry organizations for the purpose of maintaining and enhancing the long-term profitability of the industry. Information was provided relative to recommended production technology, marketing, financial management, record keeping and use of analysis and planning tools. Programmed assistance included a comprehensive computerized genetic improvement program with a sow productivity monitoring option, swine semen sales with training in the use of swine artificial insemination, a swine production home study course, a subscription handbook on pork production, two major provincial events and several regional and district seminars and courses.

Information and programs were co-ordinated and provided by branch staff, four regional swine specialists and other professional and technical staff. The pork production home study course, written by branch staff and specialists, which provided detailed self-instruction in the business of pork production aimed at beginning producers, sold 1,000 copies in the past two years. The pork production handbook was distributed on a fee for service basis for the first time this year, and distribution was to 700 subscribers compared to about 1,800 when the service was free in the

previous year. This service provided more than 75 fact sheets on pork production topics to a subscriber list, with new material mailed out as it was written or updated.

The 14th Annual Alberta Pork Congress was held in June in Red Deer featuring a livestock show, educational seminars, and an industrial trade show; over 3,000 attended. The 20th Annual Banff Pork Seminar, held in January, attracted about 175 participants, and featured pork production technology experts from around the world. Branch staff and swine specialists together with university personnel helped plan and resource this event.

Sales of semen from the Alberta Swine Artificial Insemination Centre at Leduc totalled 9,511 double doses for the 1988-89 fiscal year (Table I and Figure I). This is a reduction in semen sales by 15% which can be attributed to two major factors: reduced market pig prices which can be linked to a 9% reduction in number of sows being kept for breeding in Alberta, and the appearance of two new A.I. centres in Manitoba during the fiscal year. As a result of not achieving the anticipated semen sales, the number of boars in the centre was not increased to 30 as projected. At year end, there were 28 boars on hand, 22 of which were in service. Four boars were destined for removal soon after the year end (Table II). Based on semen sales for the last quarter of the fiscal year in service, boar needs amounted to an aggregate of 18. A total of 15 boars were culled and 17 were added during the fiscal year. Reproductive performance reports for A.I. for the year showed a 78.4% farrowing rate and an average 10.1 live

piglets born per litter for 1,700 breedings from which field reports were received. These figures represent an improvement in farrowing rate by 2% and 0.5 live pigs average per litter over those for the previous year.

Semen quality as indicated by laboratory records showed at least 90% of semen collected had 7 day motility exceeding 50%, which is considered exceptional by international fresh semen shelf-life standards.

Computer programs were developed to provide monthly updates on reproductive results by boars reported from A.I. farrowings over the previous six months. These are also done on a quarterly basis. Quarterly farrowing information was circulated to regional swine specialists to assist with on-farm follow up in herds where reproductive results are lower than average. To assist spotting reproductive problems in herds using A.I., a "Reproductive Failure Checklist" was developed and circulated to customer herds and to pork industry branch staff for reference.

A new video tape on A.I. was developed in conjunction with Agriculture Communications to assist in A.I. technology transfer. Seventeen (17) A.I. short courses were given, one as far away as Prince Edward Island. An animal science student at the U of A is in the process of completing a correlation of 10 years of boar husbandry and health records with semen quality and field data. A report is expected to be issued this summer. A research project completed in co-operation with Agriculture Canada at Lacombe showed no significant difference between conception rates obtained for 3, 5 or 7 day old semen. This work also underlined the need to perform

rigorously spaced heat detection at least twice daily and at intervals of not more than 16 hours apart with first inseminations being done between 12 to 16 hours of standing heat and not later than 32 hours of standing heat if satisfactory results are to be achieved.

Fresh semen sales during the year were priced as follows, with freight not included and billed at cost. A base price of $16 with a discount for volume purchases was used during the year.

Volume Purchased	% Discount	Price
1 - 50 units	0	16.00
51 - 100 units	10	14.40
101 - 500 units	20	12.80
501 + units	30	11.20

Frozen semen was not sold during the year, but was available at a base price of $25 with the same percent discounts for volumes.

TABLE I FRESH SEMEN SALES DISTRIBUTION (April 1, 1987 to March 31, 1988)

	TOTAL PURCHASERS	# DOSES SOLD	USERS AND DOSES BY USE CATEGORY									
			1 - 25		26 - 50		51 - 100		101 - 500		500 +	
			USERS	DOSES	USERS	DOSES	USERS	DOSES	USERS	DOSES	USERS	DOSES
B.C.	58	3,370	45	262	4	132	3	237	5	1,146	1	1,593
ALTA	210	4,758	169	1,163	19	657	12	868	9	1,531	1	539
SASK	26	270	23	147	3	123	0	0	0	0	0	0
MAN.	24	942	22	134	0	0	1	53	0	0	1	655
NFDL.	1	164	0	0	0	0	0	0	1	164	0	0
ONT.	8	61	7	17	1	44	0	0	0	0	0	0
P.E.I.	5	46	4	18	1	28	0	0	0	0	0	0
TOTAL 88-89:	332	9,511	270	1,741	28	984	16	1,158	15	2,841	3	787
% OF USERS:	100		81.4		28.0		4.8		4.5		0.9	
% OF DOSES SOLD:	100			17.3		11.3		12.2		29.9		29.3
PREVIOUS YEARS:												
87-88:	347	11,344	264	1,802	34	1,216	25	1,690	22	3,803	2	2,833
86-87:	294	6,609	236	1,551	30	1,095	17	1,215	11	2,748		
85-86:	293	5,706	234	1,668	35	1,204	15	1,135	9	1,663		
84-85:	290	5,164	227	1,664	35	1,166	23	1,235	5	1,069		

FIGURE I

FRESH SEMEN SALES BY FISCAL YEAR

ALBERTA SWINE A.I. CENTER

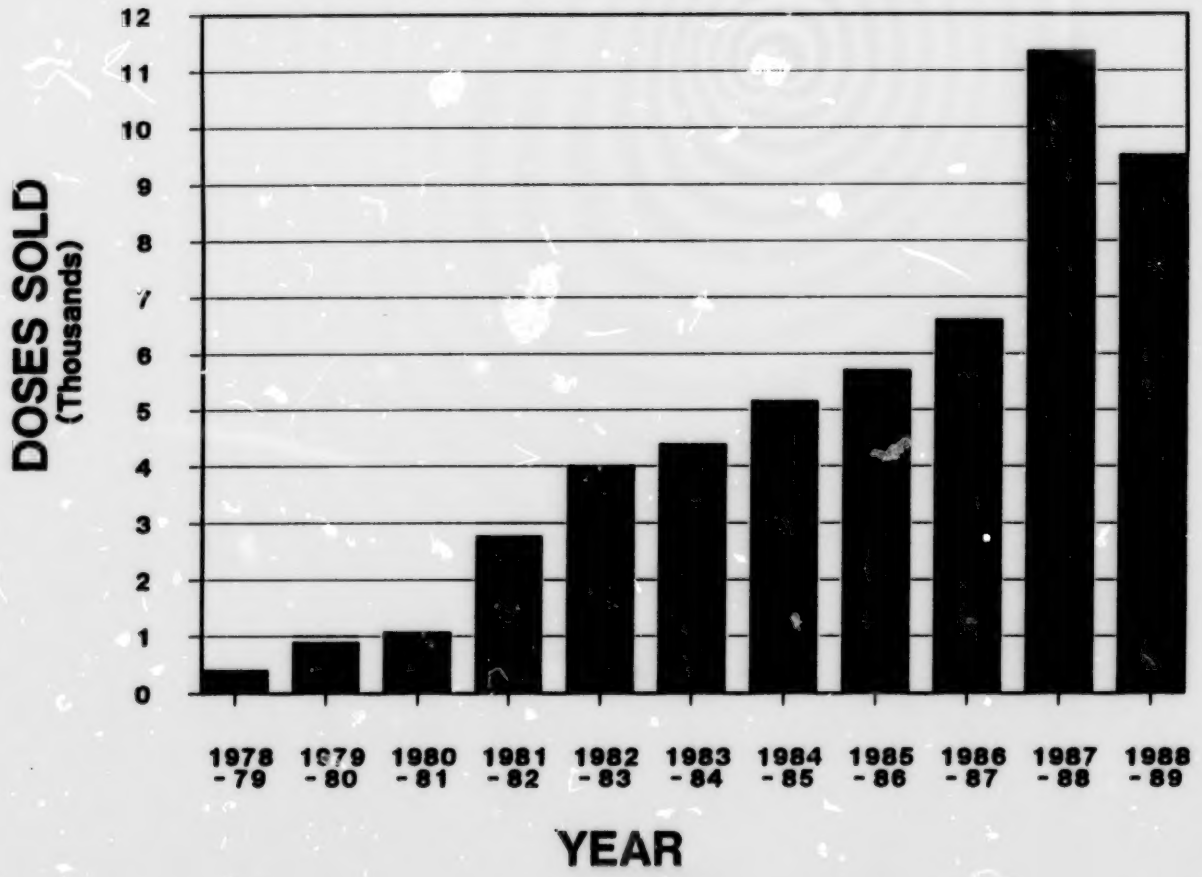


TABLE II 1988-89 BOAR BATTERY SUMMARY

BREED:	YORK	LAND	LAC	HAMP	DUROC	TOTAL
On Inventory April 1, 1988	10	6	1	5	4	26
In Service April 1, 1988	7	5	1	5	4	22
Culled 1988 - 1989	5	3	1	4	2	15
Added 1988 - 1989	6	5	2	2	2	17
On Inventory April 1, 1989	11	8	2	3	4	28
In Service April 1, 1989	8	6	2	2	4	22
Boar Needs Based on Last 3 Months Sales/125	8	4	1	2	3	18
	(1014)	(467)	(80)	(214)	(326)	

The swine improvement program assisted seedstock herds primarily to select leaner and faster growing breeding stock, with an objective to improve the product quality and producers' financial well being for the whole pork industry. To achieve this objective, 19,184 boars and gilts on 73 participating breeder farms were tested during the year by six technicians working with the Pork Industry Branch.

Additionally, 572 boars were tested at Agriculture Canada's boar test stations at Leduc and Lacombe. A summary of all the test results is given as Table III. The home (farm) test results are further detailed by breed in Table IV. The results of home testing for the past 10 years are illustrated in Figures II, III and IV.

TABLE III

ALBERTA SWINE IMPROVEMENT PROGRAM PERFORMANCE TESTING SUMMARY

1984 - 1988

	1984	1985	1986	1987	1988
Boars Station Tested					
Number	872	794	638	652	572
Avg. Backfat thickness (mm)	14.0	14.5	14.4	14.1	13.6
Avg. daily gain (kg)	0.91	0.92	0.91	0.90	0.90
Avg. feed conversion	2.45	2.41	2.48	2.47	2.44
Avg. age to 90 kg. (days)	144	145	144	145	143
Boars Home Tested					
Number	6,164	5,641	5,461	6,216	6,269
Avg. backfat thickness (mm)	14.1	14.3	13.8	13.3	13.0
Avg. age to 90 kg. (days)	157	157	155	154	153
TOTAL BOARS TESTED	7,036	6,435	6,035	6,868	6,841
Gilts Home Tested					
Number	12,004	12,474	11,651	12,931	12,915
Avg. backfat thickness (mm)	15.4	15.6	15.2	14.4	14.0
Avg. age to 90 kg. (days)	171	169	167	163	161
TOTAL PIGS TESTED	19,040	18,909	17,750	19,799	19,756

TABLE IV

HOME TESTED BOARS - BY BREED

BREED	1988 NUMBER TESTED	1988 AVERAGE BACKFAT @ 90 kg (mm)	1988 AVERAGE AGE @ 90 kg (days)	1987 NUMBER TESTED	1987 AVERAGE BACKFAT @ 90 kg (mm)	1987 AVERAGE AGE @ 90 kg (days)
Yorkshire	2478	12.9	154	2444	13.1	154
Landrace	802	12.7	149	879	13.4	150
Lacombe	664	14.4	148	406	14.1	149
Hampshire	414	12.3	168	356	12.8	162
Duroc	303	13.3	156	257	13.5	156
Red Wattle	24	19.4	180	49	20.4	176
Crossbred	1584	12.7	152	1825	13.2	155
TOTAL:	6269	13.0	153	6216	13.3	154

HOME TESTED GILTS - BY BREED

BREED	1988 NUMBER TESTED	1988 AVERAGE BACKFAT @ 90 kg (mm)	1988 AVERAGE AGE @ 90 kg (days)	1987 NUMBER TESTED	1987 AVERAGE BACKFAT @ 90 kg (mm)	1987 AVERAGE AGE @ 90 kg (days)
Yorkshire	3199	13.7	160	3018	14.1	161
Landrace	1143	13.5	153	1199	14.1	155
Lacombe	824	15.2	152	478	15.0	157
Hampshire	378	12.6	170	354	13.5	162
Duroc	211	14.4	155	173	14.6	156
Red Wattle	34	21.7	185	54	22.9	179
Crossbred	7126	14.1	164	7655	14.5	165
TOTAL:	12915	14.0	161	12931	14.4	163

FIGURE II

ALBERTA SWINE IMPROVEMENT PROGRAM

NUMBERS HOME TESTED

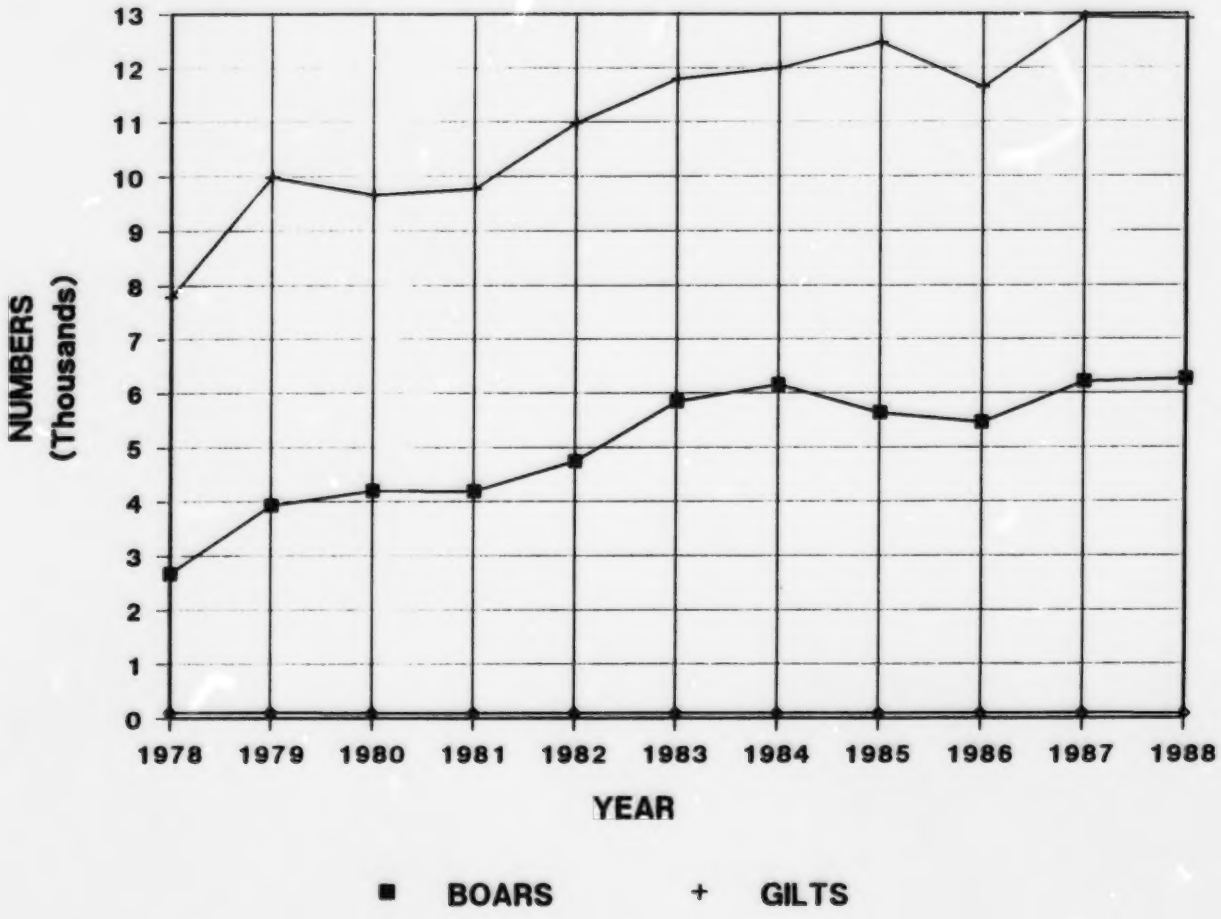


FIGURE III

SWINE IMPROVEMENT PROGRAM - ALBERTA

MM AVERAGE FAT-HOME TESTED

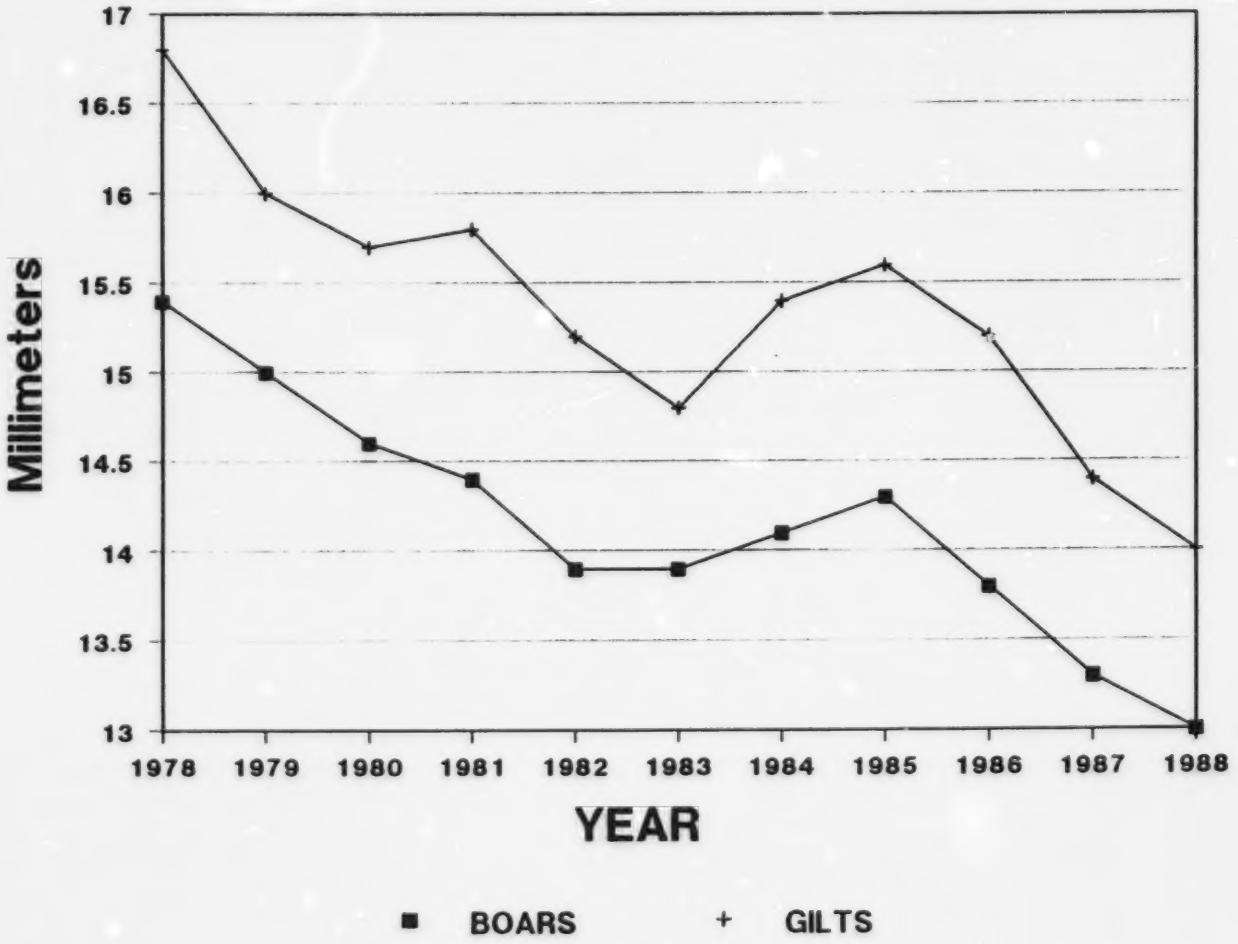
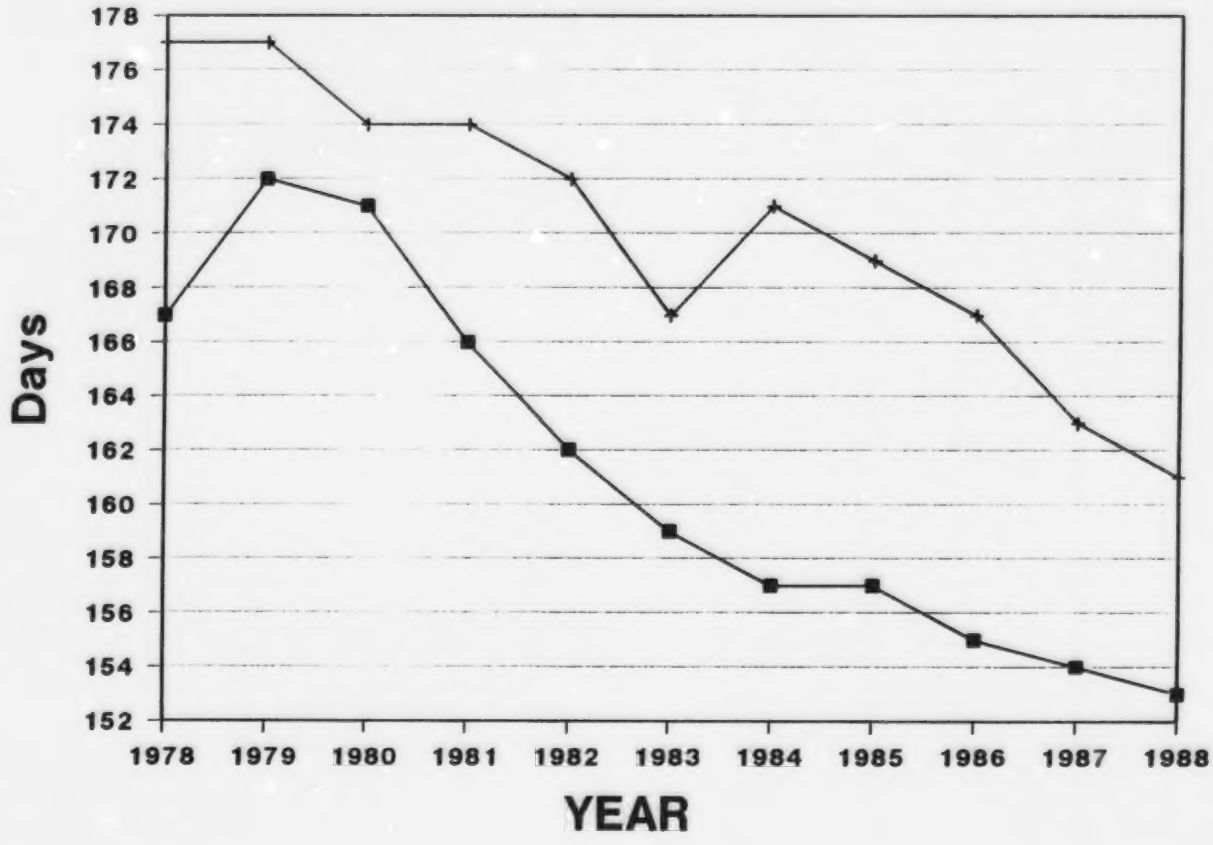


FIGURE IV

SWINE IMPROVEMENT PROGRAM - ALBERTA

DAYS 90 KG.-HOME TESTED



The Sow Productivity Recording Program, a computer system to monitor sow reproductive performance, was also offered on a voluntary basis to the performance testing herds and others. The results from this program are reported in Table V.

Significant events during the year were as follows:

1. The Alberta Swine Breeders Association (ASBA) took over operation of the Leduc (Nisku) boar test station from Agriculture Canada April 1, 1988.

2. The Lacombe station was closed March 31 by Agriculture Canada and reopened December 1 when ASBA took over operation of that station as well.

3. The Alberta government announced fees for the home test portion of the program April 1. This was the first time in the history of the program that fees were charged and as a result, a few, mainly smaller producers, dropped off the program.

4. Agriculture Canada bought the computer module for entering all home test data to Alberta May 1. Since then, all computer data has been entered by provincial staff into the provincial data base in Edmonton. Reports were supplied to the breeders showing the new Estimated Breeding Value (EBV) calculations in addition to the previously reported adjusted figures to 90 kg and the "within herd" index.

5. Alberta Agriculture acquired portable computers for all technicians and started their training on these by November. Technicians, as a result of this, commenced to enter home test data on the farm as soon as the pigs were tested. The EBV's were calculated on the farm and the breeder received a report before the technician left the farm. This also eliminated the need for data entry at the provincial level as data was transferred electronically from the portable computers to the provincial computer and finally to the national data base in Ottawa.

TABLE V

SOW PRODUCTIVITY AND MANAGEMENT PROGRAM
42 Active Herds

	YORKS	LAND	LAC	HAMP	DUROC	REDS	COMM	TOTAL
Litters Weaned	1,722	638	243	218	53	7	3,737	6,618
Pigs Weaned	14,971	5,637	1,958	1,613	391	48	33,571	58,189
Services/Farrowing	1.1	1.1	1.0	1.1	1.0	1.3	1.1	1.1
Farrowing Interval (Days)	161	156	171	165	153	157	156	158
Weaning to Conception (Days)	16.0	12.0	28.8	20.0	10.0	15.2	13.3	14.6
Total Born/Litter	10.7	10.9	10.1	9.6	11.1	9.3	11.0	10.8
Born Live/Litter	9.6	9.8	8.9	8.5	9.6	7.7	9.9	9.7
Pre-Wean Mortality (%)	11.9	11.8	14.8	16.8	21.1	14.5	10.4	11.4
Pigs Weaned/Litter	8.7	8.8	8.1	7.4	7.4	6.9	9.0	8.8
Litters/Sow/Year	2.3	2.3	2.1	2.2	2.4	2.3	2.3	2.3
Pigs Weaned Per Sow Per Year	20.0	20.2	17.0	16.3	17.8	15.9	20.7	20.2
Kg of Pigs at 21 Days Per Sow Per Year	116.4	127.0	108.6	92.6	95.8	73.6	121.7	119.6

REDS - Red Wattle

The herds which are on the Sow Productivity Program are not necessarily the same ones that are on the performance testing program.

For the regional swine specialist located at Lethbridge (Alan George, serving Region 1 and the east half of Region 2), a major area of work during the year has been one to one consultation in office and farm calls. Contacts included 75 farm calls, 114 client office consultations, 292 phone contacts and 186 agribusiness contacts, as well as numerous department contacts. The subject areas have been extensive. Basic management improvement, problem solving, and decision making in the management area have all been involved. His HOGCAAF computer model has been used extensively over the year to enable clients to analyse their operations and to predict the results of changes in operations or management routines. These consultations usually involve two or three hours with the client and may also include one or two on-site farm sessions. They enable a client to make viable decisions with a realistic 'bottom line' as the major factor of consideration. He considers them to be a very valuable part of his extension work.

Regional and local meetings and seminars provided opportunity for extension education on a broader scale and are often as effective as one to one discussions if the group interaction promotes individual thinking. He organized and resourced seminars and informal meetings at Brooks (2), Oyen (2), Foremost (2), Lethbridge and Airdrie on a wide range of subjects. He gave a paper at the Banff swine seminars on computerized liquid feeding and also a short profitmaker presentation.

The Oyen pig discussion group is still strong and healthy. A new group has started at Medicine Hat and has some very active, keen members who keep the group going on a regular basis. They have held several meetings and the specialist has attended and resourced them whenever necessary. He is trying to promote a group in the Picture Butte area. There are several interested producers at present who are going to talk it up locally and who are keen to get it going. The southern Alberta hog producers have not been so active this year and he intends to work with these people to try and restore some of the enthusiasm and activity.

The specialist conducted a series of ten evening classes on swine management for the college. These were well attended and the feedback that was received was encouraging. The college livestock facility was used for two A.I. courses which were well attended.

The specialist has responded with many local veterinarians on problems in the swine area, and organized and resourced a vet swine workshop which was well received. Attendance was 22 vets in from the southern region for a complete day of workshop discussions on all areas of swine management. He also worked closely with department veterinarians from the regional diagnostic laboratory as a support person on field problems.

Communication in the extension area has been largely through personal contacts and notes and comments to district agriculturists. The specialist wrote a regular column in the Western Hog Journal which is circulated to all hog producers in western Canada. This column discussed swine problems and

incidents that have arisen in the day to day work in the field, and appeared to be well received.

The specialist, as a member of the education committee, helped to organize the speakers for the congress and arranged a pre-congress seminar at Lethbridge with the main congress speaker, which was well attended by local producers. He designed and arranged a live exhibit of electronic sow feeding at the congress which attracted a lot of attention and many favorable remarks.

He continued to overview research materials and to disseminate this material to district agriculturists and local producers. He participated in the joint review committee meeting of the Brandon and Lacombe research stations and gave a presentation to members of the Lacombe research station staff on electronic sow feeding. He was a member of the Farming for the Future regional on-farm demo project review committee. He attended and participated at regional meetings and planning meetings. He worked with other regional team members on extension advice and farm calls.

The specialist responded to requests for A.D.C. staff for advice on loan applications and on-farm situations. He worked with loans staff of the Royal bank, the T.D. bank and the C.I.B.C. on loan application assessments of client needs and capabilities. He resourced the swine section of the Ag-lenders workshop at Olds and revised the swine manual for this workshop.

The regional swine specialist at Red Deer, Marvin Salomons, was responsible for swine extension and programs in Region 3 and the west half of Region 2. He conducted approximately 76 farm calls, 180 office interviews and was involved in approximately 800 telephone calls from producers on all aspects of hog production, economics, management, nutrition, buildings, waste management, etc. Many of the contacts were made with the assistance of other regional and provincial specialists, district agriculturists, industry feed and veterinary representatives and service personnel. He assisted these latter groups by providing technical and production information as requested.

The specialist assisted A.D.C. and F.C.C. and other lending agencies with approximately 35 client loans, evaluations, farm and office visits regarding unit evaluations and proposals.

He assisted in the organization and resourcing of approximately 19 extension meetings for hog producers (approximately 600 attending). Topics included ration formulation, management, feeding, baby pig management, breeding, handling, building design and maintenance, A.I., alternate feeds, behavior, depopulation, use of lysine and farrowing management.

The swine specialist wrote and edited a series of eight monthly newsletters (from October 1988 to May 1989) with the assistance of the regional livestock specialist and regional agricultural engineer in Region 3, the regional livestock specialist, regional swine specialist and regional agricultural engineer in Region 5 and the provincial food and nutrition specialist. The newsletter entitled "Beef 'n Bacon" was mailed

either directly or through district agriculturist offices to approximately 4,000 swine and beef producers, veterinarians, feed industry, agriculture agencies, etc. in Regions 3 and 5 and selected readers in the province. Beef 'n Bacon was designed as a major livestock winter program providing extension information on livestock production and management, plus engineering and red meat information to producers involved in pork and beef production. He wrote nine articles for the newsletter. Responses to the newsletter continued to be excellent, with distribution in its fourth year of mailing to Region 5 and its second year to Region 3. Many follow-up calls have been made as a result of articles appearing in Beef 'n Bacon.

A telephone survey of beef and swine producers was completed in May 1988 evaluating the effectiveness of Beef 'n Bacon as an extension program. Positive feedback was received in the survey.

A presentation to the agricultural society of extension (AIC) annual convention in July 1988 (Calgary) was made re: "Beef 'n Bacon: A Successful Commodity Newsletter".

With the regional swine specialist in Region 5, the specialist wrote a newsletter entitled "Pig Pointers" for swine producers in Region 6. This newsletter was mailed to approximately 250 swine producers, veterinarians, feed manufacturers, district agriculturists, etc. in the region. This newsletter provided extension material on swine production, engineering and management topics (in the same format as Beef 'n Bacon) to producers in Region 6.

The specialist wrote the "Research Reviews" column for the Western Hog Journal, with nine research reviews of various topics for the column over the past year. The Western Hog Journal, published co-operatively by the four western hog boards, has a circulation of approximately 40,000 in Canada.

He wrote a feature article for the Western Hog Journal, re: "Saving Baby Pigs". He assisted in the planning and promotion of the June 1988 Alberta Pork Congress held in Red Deer (approximately 3,000 attended) and acted as a member of the education committee and director (ex-officio) on the board. He was also engaged in planning the 1989 congress and as chairman of the education committee and director (ex-officio).

The pork congress education committee, with the assistance of the regional swine specialist in Lethbridge, sponsored and resourced a pre-congress seminar at Lethbridge for approximately 65 producers. The specialist spoke on "Saving Baby Pigs".

He assisted in the planning and promotion of the January 1989 Banff Pork Seminar (approximately 170 attended) and made a presentation re: "Behavior: Assessing What Pigs Want". He acted as chairman for the 1989 seminar and is a member of the 1990 seminar committee.

He assisted in the organization and resourcing of the U. of A. swine production class (Animal Science 470) in-depth analysis of three local farms from September to December.

He assisted the Green Certificate Program with trainee discussions and testing preparation for Levels I and II.

The specialist assisted many producers in the region in establishing record keeping systems (manual and computerized) and ration formulation programs for herds. He participated as a member of specialist task force for Region 3 given the mandate to assess regional specialists' present and future training needs and concerns.

He participated as a member for the technical advisory committee for automated information processing for field services sector with a mandate to review and recommend current and future computer hardware, software and training needs for the sector.

He conducted three on-farm demonstrations in Region 3, re: Effect of Pigs Toys on Aggression and Pig Performance" and "Use of Canola Oil to Control Dust in Pig Barns" (2 projects).

He organized and assisted in swine A.I. courses in Regions 2 and 3 at Lacombe (2) and Strathmore (1). He made a television presentation on "This Business of Farming" for local T.V. network and helped organize a seminar on "Problem Solving with Computerized Swine Records" for April 1989.

The regional swine specialist located in Vermilion, Ron Bazylo, was responsible for swine extension and programs in Region 4. With the higher feed costs and lower margins, nutrition was the focus at seminars and meetings held throughout the year. Thirteen seminars were held this year focusing on this area and also tying in financial management and record keeping.

Inquiries on outdoor housing and self feeders have been on the increase, likely due to lack of finances, by many producers. There has been some interest expressed in breeding stock operations. NPD (National Pig Development Co.) has been very active providing competition to the PIC (Pig Improvement Canada) breeding company. Some new operations have stocked their operations with NPD pigs. Disease problems have been experienced by some producers who bought weaners from auction marts. Even though weaner prices were very low, it eventually has cost these producers more in the long term to use auction marts as compared to direct purchase.

From April 1, 1988 to March 31, 1988, 55 farm calls were carried out (2 with local veterinarians) and 884 office interviews were held (clients visiting or phoning the office). District seminars or courses were held in Two Hills (2), St. Paul, Willingdon, Strome, Metiskow, Banff, Bonnyville, Vermilion, Smoky Lake, Vegreville, Oyen, and Lloydminster. Attendance was slightly lower than the previous year which is likely due to lower hog prices. Also a presentation was given to the PIG Discussion Group which was established this past year, with members from industry, government, and

university, all are involved extensively in promoting pig production. The group meets 3 to 4 times per year. An A.I. course was held at Vermilion with twelve participants. Two presentations were given to Pork Production Clubs, one in Elk Point and one in Tofield with good attendance at each. An update was also given to D.A.'s in the region.

Two on-farm demonstrations final reports were completed. They are on the use of the wet nurser, and the life line system. Results of one was published in the Western Hog Journal and the other will be published soon. A hand mating on-farm demonstration has been completed except for a final report.

There have been many inquiries about the PIGCHAMP record keeping system. The specialist has been actively involved in trouble shooting and analyzing data obtained from this program as have other regional swine specialists. A seminar in Red Deer was also held for producers who currently have computerized record keeping programs.

The specialist attended the Alberta pork seminar and pork congress and helped at the pork industry booth at the congress. He also worked at an Alberta Agriculture booth at Lloydminster. Throughout the year, all pork industry branch meetings were attended, one being in conjunction with the agricultural engineers.

A tour for about thirty St. Paul producers was organized. The producers visited the O.S. Longman Building, the University of Alberta Research Barn and Gainers.

During the past year the specialist evaluated four loan proposals, and carried out thirteen cash flows for new operations or ones intending to expand.

The Pork Production Handbook was reviewed and two fact sheets were revised. A cost and return pamphlet for "Modified Outdoor Housing for Farrow-Finish Operations" was completed. The specialist also wrote a Bacon Bits article and had a radio broadcast on transporting pigs in cold weather.

He attended a hard device computer course, a research and demonstration workshop, and the University of Alberta tour.

Many inquiries on rations, buildings, management, records, etc. were received. He met with industry personnel throughout the year. Veterinary contact again increased over the past year.

The regional swine specialist located in Barrhead, Bert Dening, was responsible for swine extension and programs in Regions 5 and 6. He organized and put on three A.I. courses in the region this year. Sixteen production meetings or seminars on hog production were held in the two regions, and the specialist was involved in speaking at these in addition to helping organize some of them. The specialist contributed articles to and distributed the Beef 'n Bacon monthly newsletter in region 5 and the semi-annual Pig Pointers newsletter in region 6. U. of A. students were given a tour of pig operations in the region. Several branch fact sheets

were reviewed. Branch meetings (4) were attended and the specialist was an active member of the Pig Industry Discussion Group. The specialist took part in the Pork Congress at Red Deer in booth attendance and meeting with clients. The Pork Seminar in Banff was attended for technical updates. Computer courses to Lotus 1-2-3 were taken, as well as communications workshop and a nutrition symposium in Winnipeg.

Farm calls were made for producer consultation, as well as numerous office interviews and phone calls concerning needs for nutrition, housing, health, management and planning expansions or changes in operations. Feed companies, veterinarians and district agriculturists also were clients of the specialists, and team work on problem solving was used. Two producers were started on the PigCHAMP swine record system for computerized recording.

Many other contacts and activities were included in activities of the specialist this year too numerous to itemize.

POULTRY BRANCH

GENERAL CONDITIONS

Nineteen eighty-eight was a relatively stable year for the poultry industry. The egg, broiler breeder and turkey sectors continued to operate within a national agency.

The chicken board continues to operate under the National Chicken Marketing Agency (C.C.M.A.) guidelines, but do not have voting status as they are not members of the agency. Official membership in C.C.M.A. is actively being reviewed by Alberta producers.

Feed grain prices advanced during the summer of 1988. Producer margins show that the increased feed cost has been offset by higher producer prices. Commercial eggs displayed very little delay in increasing producer price, and thus maintained their status level of margins. Turkey and broiler hatching egg producer prices were slower to respond. The broiler industry was recovering from high inventory levels at the time of feed price increases and have taken until the first half of 1989 to fully recover their 1986 margin status.

Broiler placements are showing a return to more normal chicken levels. Placements remained at below 100% through 1988, but the year ended with optimism as to increases in price and placements. The lower placements of broilers forced the Broiler Hatching Board to cut their quota from 95% to 85%. The turkey growers maintained their level of placement at just over 100%. The egg industry went through 1988 at 88% placement.

The move to make quotas salable for the various poultry commodities progressed somewhat during the year. The broiler breeder board are the only board to have approved the sale and transfer of quota without property at this time. As quotas become readily salable without property, there will be some realignment within the industry.

1. Broiler Breeders

Setting of hatching eggs in 1988 decreased by 3.6% to 49.5 million eggs. During the year, 98.5% of the eggs set for broiler production were produced in Alberta. Alberta brought in 337,000 eggs and shipped 401,000 commercial chicks outside the province. Three hundred and forty one thousand female breeder chicks were imported from the U.S.A., a decrease of 12%. Average hatchability was 75.5%.

2. Eggs

The 1988 laying flock of 1,931,600 layers was 1,503,600 regulated and 428,000 unregulated layers. This number is the same as in 1987 as reported by the Alberta Egg Marketing Board.

The production of eggs from Alberta during this period was 38,124,000 dozen, the same as last year. The rate of lay was 21 dozen for hens in regulated, and 15.3 dozen for hens in unregulated flocks. The net movement of eggs into the province showed an increase of 2.29% for a total of 10,999,000 dozen or 211,520 dozen per week to accommodate the market demand

for Alberta. The opening of a new retail food chain in the Calgary area in 1988 changed the marketing patterns of eggs and poultry products, and it will take some time before the Alberta trade adjusts.

The Canadian Egg Marketing Agency Buy Back Program saw a decrease of eggs from Alberta in 1988; 4,309,637 dozen in 1988 compared to 4,548,555 dozen in 1987. The Alberta per capita consumption was 20.8 dozen.

The commercial egg marketings through registered egg stations were 34.9 mln dozen in 1988, compared to 35.3 in 1987, a 1.1% decrease.

3. Broilers

Alberta's chicken production in 1988 was 42.1 mln Kg, 0.7 percent above production a year ago.

Broiler production at 36.9 mln Kg was up 0.1 percent from 1987. Roaster production was 2.9 mln Kg, up 7.0 percent, while cornish was up 5.0 percent, at 2.3 mln Kg.

Broiler production was under pressure during the year, but optimism for 1989 is present on both price and placements.

The Chicken Board implemented the first stage of a modern cost effective quota system whereby roaster and broiler quota are combined, thus allowing growers to reduce production costs by growing light and heavy birds in the same barns.

A change to fresh product for most retail stores has affected the method of handling chicken and the need for storage. This has placed more pressure on the processing industry to have product available on a regular basis.

The Alberta Chicken Producers Marketing Board once again did not join the National Chicken Agency, however, the Board is actively reviewing full membership in the Agency. The Board did sign their fifth agreement with the Agency, which limited Alberta's marketing to 8.25% of the total Canadian allocation in 1988. Alberta produced only 96% of their 43,381,000 Kg allocation.

4. Turkeys

Heavy breed marketing remained at 8.7 mln Kg. Light breed production increased to 1.9 mln Kg; an increase of 11.7 percent from 1987.

Domestic production of turkeys in Canada showed an increase of 1.0% over 1987 levels.

Alberta's total turkey marketing allocation from the Canadian Turkey Marketing Agency for 1988 was 9,964,000 kilograms. Actual marketings were 9,724,000 mln Kg.

Alberta's per capita consumption of turkey meat was 4.34 Kg; 3.60 Kg for heavies and 0.74 Kg for lights.

BRANCH PROGRAMS

1. Administration

The Administration Section develops and administers regulations, policies and programs relative to the industry under the Livestock and Livestock Products Act.

The Poultry Branch provided a number of programs and services designed to increase the long-term profitability of the poultry industry in Alberta.

2. Research

The Poultry Branch continued to assist in the functioning of the University of Alberta research institute by serving on the poultry research committee. As part of the five-year agreement, the Branch provided a grant of $185,000 for applied research to be conducted at the University of Alberta poultry unit. Branch staff were also involved in a number of on-farm demonstrations and research projects related to poultry production conducted under the auspices of the Farming for the Future program.

3. Poultry Health

The purpose of this program is to prevent and to control poultry diseases, to safeguard public health.

All breeder flocks and hatcheries were monitored with emphasis on salmonella detection and reduction in cooperation with the Animal Health Division. This program is designed to increase agriculture production by reducing the number and kinds of disease producing organisms in poultry and their environment with emphasis on salmonella, because of the public health significance of this organism. The resultant increase in production has led to improved income for poultry producers of this province.

The poultry health program is broken down into a number of areas. These are:

(i) Hatchery Sanitation Program (Fluff Sampling)

Chick fluff samples analyzed were 65 from the Lethbridge area; 191 from the Calgary area; and 222 from the Edmonton area. The number of chicken flocks represented by fluff samples totalled 972 indicating a monitoring sampling of approximately 8.2 times for each approved hatchery supply flock. The turkey flock sampling totalled 16 indicating approximately 9 fluff samples per flock approved. Fluff sampling of hatcheries was considered excellent.

The table on page 127 gives a complete summary of this program and lists the salmonella isolations which were found in the samples:

Total Number of Tests	Salmonella Isolated
Chicks 478	S. typhimurium S. nienstedten (4)
Turkeys 5	S. hadar (4)
TOTAL 483	

% S. isolations (chickens)	1984	1985	1986	1987	1988
	0.96(7)	0.82(6)	0.98(6)	1.04(6)	1.67(8)

% S. isolations (turkeys)	1984	1985	1986	1987	1988
	6.38(3)	2.50(1)	0.00(0)	8.89(4)	6.67(1)

(ii) Chicken Health Program

The Poultry Branch staff worked with all hatching egg shippers with special emphasis on individuals who had salmonella isolations. The following table gives the laboratory submissions for the year. The table shows the laboratory workloads for this program of the Animal Health Division and the activities of the Poultry Branch.

	Flock Placements			Type of Submissions			
Territory	Broiler	Egg Type	Total	Rep	Lay	1st Hatch	Total
1 (Leth. Lab)	22	-	22	16	24	21	61
2 (Calg. Lab)	25	5	30	28	26	20	74
3 (Edm. Lab)	31	-	31	32	22	27	81
4 (Edm. Lab)	24	25	49	43	47	49	139
TOTAL	102	30	132	119	119	117	355

By studying the above table health related activities of the Poultry Branch can be noted. Required calls within the Poultry Health Program by regional poultry specialists were very satisfactory.

It is encouraging to note that only four submissions of salmonella were isolated from culls 1st hatch. In 1986, the branch implemented a new egg sanitation program with the aid of Rodac plate monitoring at the farm level. The use of paraformaldehyde flakes in the nest boxes, and the spraying of eggs with disinfectants immediately after lay are the main emphasis employed by regional poultry specialists with some of their hatching egg producers. The new program, with constant vigilance is resulting in reducing the number of salmonallae in commercial chicks.

Percent Chicken Salmonella Isolations

	Sampling			
	Replacement	Laying	1st Hatch	Total
No. of submissions	119	119	117	355
No. of S. positives (+)	8	25	2	35
% positive - 1988	6.7	21.0	1.7	9.8
1987	3.3	23.6	3.6	10.8
1986	0.0	29.6	0.0	13.0
1985	2.8	26.3	4.0	11.6
1984	10.1	24.8	7.4	14.5
* 1978	15.8	27.8	0.8	21.2

* start of program

The constant percent isolation of salmonella in environmental samples at time of lay continues to be a concern. At the hatchery and egg producer level, increased egg sanitation and management are being encouraged and monitored by the use of Rodac plates.

With the hatching egg chick placement quota increasing, increasing egg sanitation and constant vigilance is essential by both the producer and regional poultry specialist. Greater emphasis on flock health and egg quality is essential to maintain a high degree of chick quality.

(iii) Turkey Health Program

	Flock Placements		Type of Submission		Hatches	Total
Terr.	Heavies	Lights	Rep.	Laying	1 2 3 4 5	
1 Leth.	-	-	-	-	- - - - -	-
2 Airdrie	2	-	-	1	2 4 2 2 2	13
3)Edmonton	3	-	-	1	- 1 3 2 2	9
4	2	-	-	2	- - 2 1 1	6
TOTAL	7	-	-	4	2 5 7 5 5	28

Throughout the year, turkey breeders co-operated in various Mycoplasma testing programs. S. arizonae was isolated in cull poults from three hatches in two heavy breeder flocks. Three heavy-type breeder flocks were placed in Alberta for out-of-the-province egg and poult sales.

(iv) Hatching Egg Supply Flock Approval

The number of birds under this program has changed very little in the past couple of years, with the exception of egg-type flock placement.

Chickens (Approved)

	No. of Flocks		Average Flock Size		No. of Birds	
Year	Egg	Broiler	Egg	Broiler	Egg	Broiler
1988	37	91	1955	4434	72,340	403,487
1987	26	88	1524	3806	39,631	344,967
1986	48	18	1165	3192	55,931	344,738
1985	32	90	1739	3556	55,648	320,073
1984	29	94	1988	3412	57,653	320,811

Turkeys (Approved)

			Average Flock Size		No. of Birds	
Year	Lights	Heavies	Lights	Heavies	Lights	Heavies
1988	-	4	-	4,275	-	17,100
1987	-	4	-	4,087	-	16,349
1986	-	5	-	5,190	-	25,949
1985	-	3	-	6,150	-	18,450
1984	-	4	-	4,600	-	18,400

(v) General

No notification of permits for pheasant chicks or chicks of poultry were submitted during 1988. Alberta pheasant raisers however, still purchased pheasant chicks from Campbell's Pheasantry in B.C. throughout the spring season.

Twelve I.L.T. disease outbreaks were diagnosed throughout Alberta by the Regional Veterinary Laboratories. Producers were visited by the regional poultry specialist in charge of the particular area.

The I.L.T. Advisory Committee met on various occasions throughout the year. An I.L.T. program for the raisers of exhibition and fancy poultry has been drafted. It is hoped that the new program will lead to the relaxation of the present I.L.T. regulations.

4. Rabbits

Rabbit extension information packages were mailed to 134 enquiries. Seven individual calls were made to rabbit raisers for various reasons.

Processing figures indicate approximately 11,279 rabbits, mostly fryers, were slaughtered in provincially inspected plants in 1988. Increased interest in raising commercial rabbits was most evident during the past year, because fryers are in short supply in the west.

5. Economic Studies

There is a continual demand for factual and updated information on costs of production.

A fair amount of time was spent with farmers reviewing and assisting with loan applications. Loan applications came from A.D.C., F.C.C., and many of the banks asking for reviews and comments.

During this period the, Branch developed cost of production models for shell eggs, broiler chicken, turkeys and broiler breeders. These models are continually updated with current data and cost of production information is used to deal with requests in the area of economics.

A number of poultry farms were sold during the year and staff reviewed loan applications and worked with a number of parties before properties were finally sold.

6. Extension

The Branch's role in extension is to interpret and impart to the industry and to the general public, technical, scientific, economic and general information on poultry production. Throughout the year, regional staff members made 594 farm and service calls, 223 poultry health program calls, handled 2,294 office extension enquiries, plus 223 calls to the allied trade. They attended 220 meetings including both industry and Departmental.

Branch staff continue to work with a wide range of producers varying from large commercial farms to acreage holders with a few birds. Staff spoke at meetings varying from the specialized Agriculture Lender's Workshop to the small flock seminars and country fairs.

In February/March, 1988, the Poultry Industry Conference was again held in Red Deer. The Egg Marketing Board, the Hatching Egg Board and the Turkey Marketing Board all held their annual meetings and the Chicken Marketing Board held an information meeting in connection with the Conference. There was a very impressive area of displays set up in conjunction with the Conference. The Poultry Servicemen's Workshop held at Lake Louise in October, again drew good attendance and good comment. Major poultry shows were held at Calgary, Edmonton and Lloydminster.

ALBERTA POULTRY INDUSTRY STATISTICS

Commercial Egg Production and Marketing

Year	Layer (Average/month)	Total Eggs Dozen (Average/month)	Reg. Stations 15 doz. boxes	Producer Average Wt. Price
1988	1,931,600	3,177,000	2,328,000	95.9
1987	1,931,600	3,177,000	2,354,000	88.9

Poultry Eviscerated in Registered Stations

Chicken (Kilograms)

Year	Under 1 Kg	1-2 Kg	Over 2 Kg	Total
1988	2,311,000	36,927,000	2,877,000	42,115,000
1987	2,245,000	36,327,000	2,718,000	41,834,000

Turkey (Kilograms)

Year	Under 5 Kg	5-8 Kg	Over 8 Kg	Mature	Total
1988	1,924,000	4,148,000	4,510,000	197,000	10,778,000
1987	1,713,000	4,268,000	4,463,000	166,000	10,614,000

Chick and Poultry Placement by Type

	1987	1988
*Egg Production	2,240,000	2,159,000
Broiler Chickens	36,361,000	34,036,000

	1987	1988
Broiler Turkeys	249,000	77,000
Heavy Turkeys	1,495,000	1,546,000

*females only

Ducks, Geese, Turkeys and Pheasants Killed at Alberta Inspected Plants

	1987 (Head)	1988
Ducks		
Geese		
Pheasants	*122,000	*129,000
Turkeys		

*combined figures

Licensing

Year	First Receivers	Reg. Egg Grading Stations	Reg. Poultry Stations	Egg Packing Stations	Buy & Sell Rejects	Hatcheries	Custom Killing Stations
1985	2	17	9	1	28	13	1
1986	2	17	9	2	32	13	3
1987	2	14	11	0	34	12	2
1988	2	15	7	0	18	12	2

Farm Cash Receipts $

	1987	1988
Eggs	44,000,000	46,000,000
Poultry	94,000,000	94,000,000
	138,000,000	140,000,000

REGULATORY SERVICES BRANCH

This Branch was responsible for the administration of certain Acts and their respective Regulations.

This regulatory function provides a protection service for livestock producers in the following areas:

- Brand inspection services
- Brand registration
- Licensing and bonding of livestock dealers and agents
- Licensing of stockyards and stockyard operators
- Provide for protection of land and agricultural products from livestock running at large
- Conducting investigations of fraudulent trade practices in livestock trading
- Check scales and equipment used in making railgrade settlements on cattle

Through the co-operation with other government sectors, both provincially and federally, and industry organizations, the branch maintains an effective and efficient protection service to the livestock producers of this province against stolen or strayed livestock.

BRAND RECORDING SUMMARY

	Cattle	Horses	Sheep	Total
New brands issued	1,399	247	0	1,646
Transfers	685	76	0	761
Certified extracts	0	0	0	0
Cancelled brands	619	98	0	717
Brands renewed	9,661	1,344	1	11,006
Brands re-issued	119	20	0	139

The number of brands in good standing at December 31, 1988, was 54,201.

Cattle	46,392
Horses	7,799
Sheep	10
	54,201

During this period, 1,417 cattle, 321 horse and 4 sheep brands were allowed to expire as of March 31, 1988. Final brand notices were prepared and mailed to brand owners who had not renewed, and these totals were 2,335 cattle, 513 horse and two sheep brands. In addition, 11,445 cattle, 1,774 horse and three sheep brand renewal notices were received from Computer Services in early September and processed by the Stettler office before month end.

A total of 53 livestock auction markets and 61 livestock assembly stations were in operation. In addition, during the calendar year, three markets were licensed permitting them to hold five sales or less; five markets were licensed permitting them to hold nine sales or less; two markets were licensed permitting them to hold two sales or less, and two markets were licensed permitting them to hold a one-day sale only.

During the year, a total of 3,366,220 head of livestock were brand inspected. This was an increase of 192,655 head from the previous year. There were a total of 1,032 horse permits issued covering 2,574 horses.

SUMMARY OF 1988 BRAND INSPECTION BY AREAS

Area	Livestock Inspected	% of Livestock Inspected
Calgary	996,091	29.9%
Edmonton	564,537	16.9%
Grande Prairie	67,568	2.0%
Lethbridge	794,681	23.8%
Lloydminster	308,022	9.2%
Red Deer	606,519	18.2%

SUMMARY OF KINDS OF LIVESTOCK MARKETED FOR FIVE YEAR PERIOD

	1988	1987	1986	1985	1984
Steers	1,265,659	1,143,455	1,046,552	1,009,742	1,073,745
Heifers	856,723	805,810	805,942	816,068	829,956
Cows	372,150	366,060	328,124	403,559	410,945
Calves	577,417	543,988	499,327	547,811	527,733
Bulls	81,474	76,250	71,475	86,102	88,441
Yearlings	152,712	177,318	197,170	215,113	209,489
Buffalo	108	70	215	140	135
Mares	24,984	23,494	21,074	16,999	16,318
Geldings	21,952	19,562	17,598	14,401	15,391
Fillies	3,973	4,250	3,350	2,952	2,644
Stallions	4,541	5,600	4,315	3,652	3,985
Colts	4,233	7,426	3,994	3,648	3,169
Mules	287	282	279	256	202
Misc.	7	-	-	-	-
TOTALS	3,366,220	3,173,565	2,999,410	3,120,443	3,182,153

COMPARISON OF BRANDED LIVESTOCK INSPECTED FOR THE LAST FIVE YEARS

	1988	1987	1986	1985	1984
Branded livestock	76.7%	75.4%	75.1%	73.6%	74.7%
Livestock not branded	23.3%	24.6%	24.9%	26.4%	25.3%

SUMMARY OF INSPECTIONS

Year	Auction Markets	%	Packing Plants	%	Other Inspection	%
1988	1,975,864	59.0	945,931	28.0	444,425	13.0
1987	1,903,416	60.0	916,486	28.9	353,663	11.1
1986	1,785,025	59.5	874,471	29.2	339,914	11.3
1985	1,885,912	60.4	962,585	30.9	271,946	8.7
1984	1,920,531	60.4	993,561	31.2	268,061	8.4

PERMANENT BRAND INSPECTORS

	# of Inspectors		Lstk. Inspected		Lstk. Insp. Per Man	
Location	1988	1987	1988	1987	1988	1987
Brooks	2.91	2.82	326,667	268,823	112,257	95,327
Calgary	5.00	5.00	362,895	362,880	72,579	72,576
Clyde	2.54	2.16	188,612	184,288	74,257	85,319
Edmonton	8.00	8.00	318,815	318,240	39,852	39,780
Grande Prairie	2.16	2.19	58,950	57,266	29,292	26,149
Hardisty	1.41	1.45	106,430	105,822	75,482	72,981
High River	1.56	1.07	8,117	280,068	52,033	74,830
Lethbridge	6.38	5.78	481,257	434,247	75,432	75,129
Lloydminster	1.00	1.00	75,337	90,312	75,337	90,312
Medicine Hat	1.53	1.44	62,800	67,010	41,046	46,535
Ponoka	2.52	2.65	161,585	178,954	64,121	67,530
Red Deer	5.26	5.21	342,930	342,716	65,196	65,780
Strathmore	1.00	1.00	94,463	90,853	94,463	90,853

During 1988, our brand inspection staff questioned 252,195 head of livestock for bills of sale and held the proceeds on another 29,552 head pending proof of ownership. The proceeds on 8,793 head were released to others than the contributor.

Investigations in 1988 resulted in requests for computer retrievals on brand information and as a result, 408 names and 1,522 brands were pulled.

CATTLE EXPORTS - 1988

Month	B.C.	Sask.	Man.	Ont.	Que.	USA	Others	Total
Jan.	2,051	4,449	413	5,527	19	15,127	171	27,757
Feb.	2,917	4,250	395	7,217	-	14,463	11	29,253
Mar.	2,494	5,731	373	15,726	49	17,169	527	42,069
Apr.	2,697	6,705	864	12,493	451	14,281	69	37,560
May	6,441	6,137	1,418	10,441	600	25,245	320	50,602
June	5,909	3,715	451	7,730	61	30,429	260	48,555
July	1,822	1,348	170	3,115	92	11,427	34	18,008
Aug.	2,269	3,634	126	2,400	2	29,653	339	38,423
Sept.	2,726	3,964	165	3,121	224	29,016	142	39,358
Oct.	3,302	5,921	61	8,716	43	15,771	134	33,948
Nov.	4,010	5,664	64	14,447	499	14,275	372	39,331
Dec.	2,657	5,424	26	3,039	429	15,015	283	26,873
1988	39,295	56,942	4,526	93,972	2,469	231,871	2,662	431,737
1987	28,104	54,376	3,210	103,475	2,447	120,672	1,109	313,393

There were 510 missing or stolen cattle reports received. Following is a summary of these reports for the last four years.

MISSING OR STOLEN CATTLE REPORTS

	1988	1987	1986	1985
Total number of report	510	561	471	496
Number of head reported missing or stolen	1,470	1,128	1,079	1,471
Number found	444	310	355	329
Number not found	1,026	818	724	1,142

Under the Stray Animals Act, 846 head of livestock were impounded during the year. A total of 724 head were returned to the rightful owners after they paid the costs of capture, transportation and maintenance. The balance of 122 head were sold by public auction and the net proceeds after costs were deposited into general revenue.

There were 938 livestock dealers and agents licensed during 1988 compared to 961 the previous year.

Five branding demonstrations were conducted in various parts of the province with good local participation.

Staff Changes

Several staff changes took place within the branch during the year. Linda Hughes, Barb Nims and Orville Lourance resigned from their respective positions. Mary Ann Nelson joined our staff in the Stettler office as a keypunch operator.

ALBERTA CROW BENEFIT OFFSET PROGRAM

A. BACKGROUND

The Alberta Crow Benefit Offset Program (ACBOP) was initiated on July 1, 1987, replacing the Alberta Feed Grain Market Adjustment Program (AFGMAP). The purposes of the two programs were identical: to offset the distortion in feed grain prices created by the present federal Crow Benefit payment to the railroads. Although the distortion in feed grain prices was estimated at $18.00 per tonne, payment under the ACBOP from April 1, 1988 to March 31, 1989 was $13.00 per tonne.

Feed users (livestock producers) were registered on either the certificate option, the farm fed option, or both - depending on the source of the feed grain which they used. Certificate option registrants were given certificates for use when purchasing eligible feed grain. The certificates were valued at $13.00 per tonne. Farm Fed registrants claimed benefit of $13.00 per tonne of home grown grain which was fed to livestock.

Feed sellers who received certificates as partial payment for feed grain were either grain producers or merchants. Feed grain producers presented certificates to Alberta Agriculture for reimbursement. Feed grain merchants were not permitted, except in certain circumstances, to present certificates for reimbursement. Instead, they were required to match the aggregate tonnage of eligible feed grain purchased and aggregate tonnage sold, within an approved float.

B. REGISTRATIONS

1. Feed Grain Users

A total of 26,672 feed users were registered on the program as at March 31, 1989. This was a net increase of 517 from the previous year. The number of feed users registered under the certificate, farm fed, and both options were 6,457, 11,052, and 9,163, respectively. The following table compares the number of registrants as at March 31, 1989 with previous years:

OPTION	1986-87	1987-88	1988-89
Certificates	6,160	6,733	6,457
Farm Fed	10,717	11,084	11,052
Both	8,238	8,338	9,163
TOTAL	25,115	26,155	26,672

The number of new registrations received during the 1988-89 fiscal year was less than those received during previous years.

2. Feed Grain Merchants

Of the 291 merchants registered, a total of 223 sold grain on the program during 1988-89. These merchants were located from Vancouver to Montreal with the majority in Alberta, Saskatchewan and Manitoba. The distribution of merchants by type was as follows:

Type of Merchant	Active	Inactive	Total
Grain dealers	90	42	132
Feedmills	69	12	81
Elevator Companies	9	1	10
Exempt*	55	13	68
TOTAL	223	68	291

* Exempt merchants do not buy eligible grain with certificates but receive certificates on the sale of grain/screenings. They are mainly seed cleaning plants.

The majority of merchants (66 percent) sold 5,000 tonnes of grain or less on the program during the 1988-89 fiscal year. A complete breakdown of the active merchants by tonnage sold was as follows:

Range of Eligible Grain Sold (tonnes)	Number of Merchants
< 5,000	148
5,001 - 10,000	19
10,001 - 20,000	17
20,001 - 40,000	19
40,001 - 60,000	7
60,001 - 80,000	5
> 80,000	8
TOTAL	223

Effective July 1, 1987, a new program condition 9.8.4 came into effect. This condition allowed elevator companies, feedmills, and licensed grain dealers who had obtained approval from the program administrator to present B certificates which they had issued and cashed to the program for reimbursement. Fifteen merchants have obtained approval from the administrator and to date have cashed $5,301,306.82 on behalf of the Alberta Crow Benefit Offset Program.

C. GRANT PAYMENTS

Grant payments from April 1, 1988 to March 31, 1989 totalled $45,919,644.19 plus accrued liabilities. At the time of writing, the estimated total payout of grant funds including accrued liabilities was $48,051,991.44. This was down from the previous fiscal year's payments of $70,900,756.60. The reduction of over $20 million was largely due to the elimination of $21/tonne payments carried forward into 1987-88 from the old Alberta Feed Grain Market Adjustment Program. A complete breakdown of grant payments by region, municipal district and electoral division is given in the appendices. Total grant payments from September 1, 1985 to March 31, 1989 were $220,980,499.27 (excluding accrued liabilities to March 31, 1989).

C. **GRANT PAYMENTS** (cont.)

Distribution of Grant Payments

Payments to Registrants:

MONTH	CERTIFICATE DOLLAR	FARM FED DOLLAR	TOTAL DOLLAR
April	$ 860,871.31	$ 294,892.00	$ 1,155,763.31
May	1,913,731.53	1,268,445.00	3,182,176.53
June	2,435,910.20	1,448,297.00	3,884,207.20
July	2,268,755.97	1,634,470.00	3,903,225.97
August	1,651,385.72	2,642,389.86	4,293,775.58
September	1,522,867.51	2,223,005.00	3,745,872.51
October	1,144,040.61	1,444,633.00	2,588,673.61
November	1,407,585.97	1,645,729.00	3,053,314.97
December	1,435,840.30	1,242,540.00	2,678,380.30
January	2,464,943.37	1,301,366.00	3,766,309.37
February	1,673,639.16	1,763,178.00	3,436,817.16
March	2,683,273.68	3,528,301.00	6,211,574.68
TOTAL	**$ 21,462,845.33**	**$ 20,437,245.86**	**$ 41,900,091.19**

Payments to Merchants:

Reimbursement	3,772,994.84
N.S.F. Payments (relating to Program Condition 9.8.3)	246,558.16
Sub-Total	**$ 45,919,644.19**
Accrued liabilities to March 31, 1989	$ 2,132,347.25
Total	**$ 48,051,991.44**

C. **GRANT PAYMENTS** (cont.)

Distribution of payments among registrants is shown below:

RANGE OF PAYMENTS IN DOLLARS		REGISTRANTS *
$ 0.00	$ 0.00	11,446
0.01	100.00	1,062
100.01	200.00	1,382
200.01	300.00	1,288
300.01	400.00	1,035
400.01	500.00	1,013
500.01	600.00	845
600.01	700.00	713
700.01	800.00	720
800.01	900.00	671
900.01	1,000.00	498
1,000.01	2,000.00	3,179
2,000.01	3,000.00	1,407
3,000.01	4,000.00	753
4,000.01	5,000.00	433
5,000.01	6,000.00	293
6,000.01	7,000.00	214
7,000.01	8,000.00	157
8,000.01	9,000.00	122
9,000.01	10,000.00	111
10,000.01	20,000.00	382
20,000.01	30,000.00	131
30,000.01	40,000.00	79
50,000.01 and above		146
TOTAL NUMBER OF REGISTRANTS		28,079

A large number of registrants (11,446) received no benefit during the 1988-89 fiscal year. Many registrants submit claims less often than once per year because there are no deadlines for claiming.

The majority of registrants (73.6%) received $1,000 or less during this 12 month period. Due to the skewed distribution of payments, an average payment per registrant was not calculated, as it could be misleading.

* Includes registrants who withdrew or cancelled from the program during this fiscal year. Active registrants at March 31, 1989 were 26,672. All registrations on the program since September 1, 1985 total 28,534.

APPENDIX 1

ALBERTA CROW BENEFIT OFFSET PROGRAM

Grant Payment by Region and District Office
1988-1989 fiscal year
before accrued liabilities

Code	Region	Registration Number *	Certificate Dollars **	Farm Fed Dollars	Total Dollars
		47	$ 0.00	$ 0.00	$ 0.00
1	Lethbridge	3,904	12,760,107.76	2,996,458.00	15,756,565.76
2	Airdrie	4,031	5,730,407.47	2,832,529.00	8,562,936.47
3	Red Deer	6,858	4,971,936.09	5,204,271.00	10,176,207.09
4	Vermilion	5,649	2,421,074.73	4,513,373.86	6,934,448.59
5	Barrhead	5,972	2,733,835.96	3,986,548.00	6,720,383.96
6	Fairview	2,073	399,969.78	904,066.00	1,304,035.78
TOTAL:		28,534	$ 29,017,331.79	$ 20,437,245.86	$ 49,454,577.65 **

LETHBRIDGE REGION (Southern)

D.A. Code	District	Registration Number *	Certificate Dollars **	Farm Fed Dollars	Total Dollars
E2B01AC	Brooks	555	$ 2,969,341.42	$ 391,989.00	$ 3,361,330.42
E2B01AD	Cardston	354	443,565.02	276,963.00	720,528.02
E2B01AE	Claresholm	447	958,397.59	278,736.00	1,237,133.59
E2B01AF	Foremost	131	64,789.85	142,248.00	207,037.85
E2B01AG	Bow Island	81	193,321.51	14,378.00	207,699.51
E2B01AH	Lethbridge	678	5,367,594.53	641,741.00	6,009,335.53
E2B01AI	Medicine Hat	488	412,533.38	178,906.00	591,439.38
E2B01AJ	Pincher Creek	258	365,672.75	196,309.00	561,981.75
E2B01AK	Taber	216	875,279.30	111,029.00	986,308.30
E2B01AL	Vauxhall	185	354,598.38	73,066.00	427,664.38
E2B01AM	Vulcan	301	125,233.91	309,491.00	434,724.91
E2B01AN	Warner	210	629,780.12	381,602.00	1,011,382.12
TOTAL:		3,904	$ 12,760,107.76	$ 2,996,458.00	$ 15,756,565.76

AIRDRIE REGION (South Central)

D.A. Code	District	Registration Number *	Certificate Dollars **	Farm Fed Dollars	Total Dollars
E2C01AC	Calgary	407	$ 409,604.10	$ 195,197.00	$ 604,801.10
E2C01AD	Drumheller	264	89,779.42	268,484.00	358,263.42
E2C01AE	Hanna	283	131,472.65	119,421.00	250,893.65
E2C01AF	High River	549	657,644.53	413,752.00	1,071,396.53
E2C01AG	Olds	1,059	935,574.29	639,543.00	1,575,117.29
E2C01AH	Oyen	203	123,063.48	115,750.00	238,813.48
E2C01AI	Strathmore	376	1,731,927.00	348,833.00	2,080,760.00
E2C01AJ	Three Hills	516	984,286.75	456,589.00	1,440,875.75
E2C01AK	Airdrie	374	667,055.25	274,960.00	942,015.25
TOTAL:		4,031	$ 5,730,407.47	$ 2,832,529.00	$ 8,562,936.47

RED DEER REGION (Central)

D.A. Code	District	Registration Number *	Certificate Dollars **	Farm Fed Dollars	Total Dollars
E2D01AC	Camrose	1,013	$ 499,641.06	$ 725,952.00	$ 1,225,593.06
E2D01AD	Coronation	486	162,249.09	441,971.00	604,220.09
E2D01AE	Lacombe	548	371,569.64	492,792.00	864,361.64
E2D01AF	Ponoka	783	1,173,298.34	800,826.00	1,974,124.34
E2D01AG	Red Deer	479	736,487.31	312,234.00	1,048,721.31
E2D01AH	Rimbey	509	840,328.01	448,149.00	1,288,477.01
E2D01AI	Rocky Mtn. House	582	211,942.69	232,041.00	443,983.69
E2D01AJ	Sedgewick	635	258,635.89	226,409.00	485,044.89
E2D01AK	Stettler	523	240,118.85	458,293.00	698,411.85
E2D01AL	Wetaskiwin	659	238,387.11	603,580.00	841,967.11
E2D01AM	Innisfail	641	239,278.10	462,024.00	701,302.10
TOTAL:		6,858	$ 4,971,936.09	$ 5,204,271.00	$ 10,176,207.09

VERMILION REGION (North East)

D.A. Code	District	Registration Number *	Certificate Dollars **	Farm Fed Dollars	Total Dollars
E2E01AC	Bonnyville	321	$ 43,584.94	$ 214,154.00	$ 257,738.94
E2E01AD	Lac La Biche	243	9,057.65	114,765.00	123,822.65
E2E01AE	Lamont	615	58,326.90	362,287.00	420,613.90
E2E01AF	Lloydminister	348	421,509.94	477,792.00	899,301.94
E2E01AG	Provost	428	761,463.04	469,508.00	1,230,971.04
E2E01AH	Ryley	666	193,668.30	489,691.00	683,359.30
E2E01AI	St. Paul	754	247,849.02	747,166.86	995,015.88
E2E01AJ	Smoky Lake	357	40,440.37	231,039.00	271,479.37
E2E01AK	Two Hills	448	136,736.08	308,564.00	445,300.08
E2E01AL	Vegreville	623	72,531.04	373,457.00	445,988.04
E2E01AM	Vermilion	477	116,654.67	365,273.00	481,927.67
E2E01AN	Wainwright	369	319,252.78	359,677.00	678,929.78
TOTAL:		5,649	$ 2,421,074.73	$ 4,513,373.86	$ 6,934,448.59

BARRHEAD REGION (North West)

D.A. Code	District	Registration Number *	Certificate Dollars **	Farm Fed Dollars	Total Dollars
E2F01AC	Athabasca	514	$ 91,129.82	$ 251,371.00	$ 342,500.82
E2F01AD	Barrhead	747	446,073.86	938,587.00	1,384,660.86
E2F01AE	Drayton Valley	322	31,969.20	107,367.00	139,336.20
E2F01AF	Edson	163	145,606.42	125,268.00	270,874.42
E2F01AG	Evansburg	180	21,734.82	54,393.00	76,127.82
E2F01AH	Ft. Saskatchewan	383	449,424.46	116,592.00	566,016.46
E2F01AI	Leduc	873	275,402.76	532,852.00	808,254.76
E2F01AJ	Morinville	432	490,161.40	497,588.00	987,749.40
E2F01AK	Sangudo	578	101,037.47	279,912.00	380,949.47
E2F01AL	Stony Plain	592	132,681.44	310,154.00	442,835.44
E2F01AM	Thorhild	393	80,895.30	211,674.00	292,569.30
E2F01AN	Westlock	795	467,719.01	560,790.00	1,028,509.01
TOTAL:		5,972	$ 2,733,835.96	$ 3,986,548.00	$ 6,720,383.96

FAIRVIEW REGION (Peace River)

D.A. Code	District	Registration Number *	Certificate Dollars **	Farm Fed Dollars	Total Dollars
E2G01AB	Fairview	327	$ 63,179.66	$ 141,149.00	$ 204,328.66
E2G01AC	Fahler	50	12,386.25	56,524.00	68,910.25
E2G01AD	Fort Vermilion	197	8,852.42	49,075.00	57,927.42
E2G01AE	Grande Prairie	541	189,328.42	291,876.00	481,204.42
E2G01AF	High Prairie	182	11,522.85	62,029.00	73,551.85
E2G01AG	Manning	118	12,136.63	26,113.00	38,249.63
E2G01AH	Peace River	189	34,993.55	75,320.00	110,313.55
E2G01AJ	Spirit River	228	36,757.28	96,347.00	133,104.28
E2G01AK	Valleyview	166	16,911.40	68,952.00	85,863.40
E2G01AL	Eaglesham	75	13,901.32	36,681.00	50,582.32
TOTAL:		2,073	$ 399,969.78	$ 904,066.00	$ 1,304,035.78

* Includes registrants who withdrew or cancelled from the program during this fiscal year. Active registrants at March 31, 1989 were 26,672.

** "Certificate Dollars" represent the face value of certificates which have been issued. Not all these certificates will be presented for payment since the grain merchants are entitled to carry a float (see Section A). The face value is presented here instead of payments since the face value more accurately represents the benefit received. Therefore, the Certificate Dollars and Total Dollars are higher than Certificate Dollars and Total Grant Payments shown on Page 147.

APPENDIX 2

ALBERTA CROW BENEFIT OFFSET PROGRAM

Grant Payment by Municipal District for 1988-1989 fiscal year

MD Code	MD Name	Registration Number *	Certificate Dollars **	Farm Fed Dollars	Total Dollars
C001	Grand Prairie	475	$ 161,392.37	$ 268,645.00	$ 430,037.37
C002	Vulcan	317	136,699.43	337,883.00	474,582.43
C003	Ponoka	956	939,098.95	507,949.00	1,447,047.95
C004	Newell	502	2,844,380.41	385,073.00	3,229,453.41
C005	Warner	216	638,040.01	383,617.00	1,021,657.01
C006	Stettler	667	232,625.61	613,486.00	846,111.61
C007	Thorhild	382	69,522.52	200,087.00	269,609.52
C008	Forty Mile	239	284,907.78	184,550.00	469,457.78
C009	Beaver	688	164,226.51	483,529.00	647,755.51
C010	Wetaskiwin	773	255,482.79	494,294.00	749,776.79
C011	Barrhead	701	434,658.60	922,389.00	1,357,047.60
C012	Athabasca	509	94,055.20	246,626.00	340,681.20
C013	Smoky Lake	391	50,440.57	245,150.00	295,590.57
C014	Lacombe	831	1,184,400.55	829,127.00	2,013,527.55
C016	Wheatland	411	1,744,853.27	417,863.00	2,162,716.27
C017	Mountainview	1,028	835,859.02	610,566.00	1,446,425.02
C018	Paintearth	288	57,016.37	308,812.00	365,828.37
C019	St. Paul	621	171,945.37	600,752.86	772,698.23
C020	Strathcona	382	375,451.98	112,406.00	487,857.98
C021	Two Hills	498	150,920.38	324,736.00	475,656.38
C022	Camrose	927	484,734.53	655,349.00	1,140,083.53
C023	Red Deer	1,017	1,300,072.96	948,455.00	2,248,527.96
C024	Vermilion River	790	539,502.23	825,463.00	1,364,965.23
C025	Leduc	1,011	319,287.01	565,560.00	884,847.01
C026	Lethbridge	650	4,596,517.98	588,129.00	5,184,646.98
C027	Minburn	531	61,296.37	350,473.00	411,769.37
C028	Lac Ste. Anne	631	101,757.75	287,426.00	389,183.75
C029	Flagstaff	576	243,900.86	508,031.00	751,931.86
C030	Lamont	689	66,327.07	377,978.00	444,305.07
C031	Parkland	670	217,742.47	351,312.00	569,054.47
ID05	Kananaskis Park	4	0.00	390.00	390.00
ID06	Canmore S	5	1,961.33	845.00	2,806.33
ID07	Drumheller	5	0.00	78.00	78.00
ID08	Canmore N	21	10,372.98	4,771.00	15,143.98
ID09	Banff Park	1	0.00	325.00	325.00
ID14	Evansburg	312	163,778.23	177,139.00	340,917.23
ID15	Fort Assiniboine	77	13,767.49	27,625.00	41,392.49
ID16	Valleyview	241	45,496.18	94,380.00	139,876.18

MD Code	MD Name	Registration Number *	Certificate Dollars **	Farm Fed Dollars	Total Dollars
ID17	High Prairie	285	$ 42,885.64	$ 114,074.00	$ 156,959.64
ID18	Bonnyville ID	358	34,907.12	184,392.00	219,299.12
ID19	Wanham	97	23,915.29	47,107.00	71,022.29
ID20	Spirit River ID	175	25,289.36	77,084.00	102,373.36
ID21	Worsley	202	43,695.20	78,509.00	122,204.20
ID22	Manning	169	21,002.50	41,648.00	62,650.50
ID23	Fort Vermilion	196	8,852.42	49,075.00	57,927.42
MD01	Cypress	464	384,379.35	137,007.00	521,386.35
MD06	Cardston	357	454,580.99	311,088.00	765,668.99
MD09	Pincher Creek	259	365,672.75	196,309.00	561,981.75
MD14	Taber	403	1,230,131.62	184,095.00	1,414,226.62
MD26	Willow Creek	463	1,701,304.20	281,544.00	1,982,848.20
MD31	Foothills	531	651,038.46	396,436.00	1,047,474.46
MD34	Acadia Valley	36	24,052.58	37,258.00	61,310.58
MD44	Rocky View	771	1,074,619.18	473,316.00	1,547,935.18
MD47	Starland	199	70,777.11	217,524.00	288,301.11
MD48	Kneehill	548	981,218.91	463,141.00	1,444,359.91
MD52	Provost	388	733,494.72	434,954.00	1,168,448.72
MD61	Wainwright	374	321,038.21	386,626.00	707,664.21
MD87	Bonnyville MD	299	72,828.54	285,267.00	358,095.54
MD90	Sturgeon	439	498,635.74	502,905.00	1,001,540.74
MD92	Westlock	745	460,453.54	551,207.00	1,011,660.54
MD99	Clearwater	664	262,040.78	229,737.00	491,777.78
MD130	Smoky River	52	14,303.45	57,031.00	71,334.45
MD133	Spirit River MD	41	7,933.31	12,425.00	20,358.31
MD135	Peace	99	13,658.06	36,944.00	50,602.06
MD136	Fairview	113	13,694.44	55,191.00	68,885.44
SA02	Hanna	304	234,942.00	113,182.00	348,124.00
SA03	Oyen	179	116,984.97	76,162.00	193,146.97
SA04	Consort	242	136,508.22	164,738.00	301,246.22
Unidentifiable		49	0.00	0.00	0.00
TOTAL:		28,534	$ 29,017,331.79	$ 20,437,245.86	$ 49,454,577.65 **

* Registration numbers include all registrations from September 1, 1985.

** "Certificate Dollars" represent the face value of certificates which have been issued. Not all these certificates will be presented for payment since the grain merchants are entitled to carry a float (see Section A). The face value is presented here instead of payments since the face value more accurately represents the benefit received. Therefore, the Certificate Dollars and Total Dollars are higher than Certificate Dollars and Total Grant Payments shown on Page 147.

D. FIELD INSPECTIONS

During the 1988-89 fiscal year there were 2,184 field inspections completed under the Alberta Crow Benefit Offset Program. This represents approximately 8% of the total registrations with the program. The majority of these inspections were randomly chosen using a dollar value sampling technique. This random sample is being used to measure the level of compliance within the program. The level of compliance for the 1988-89 fiscal year was calculated at 99%.

In addition to establishing a level of compliance, these field inspections also act as a deterrent to practices which are outside the intent of the program and provide "on farm" producer liaison.

FEDERAL/PROVINCIAL DROUGHT ASSISTANCE PROGRAM - 1988

In 1988, due to below normal snow cover during the winter and below normal spring precipitation, a major portion of Manitoba, Saskatchewan and Alberta experienced variable drought conditions. Perennial forages (which require winter and spring precipitation were the most seriously affected, creating the possibility of a sell off of breeding stock because of the shortage of forage supplies.

To facilitate a uniform program of assistance across Western Canada, a Federal/Provincial Coordinating Committee with representatives from Ottawa and the four western provinces was organized in May. Through this committee, a Federal/Provincial Drought Assistance Program was developed to provide financial assistance to drought-stricken farmers. This program was offered in two parts and was shared 50/50 between Alberta and Canada.

(1) Greenfeed Incentive Program

- $15 per acre for annual forage planted between June 21 and July 31, 1988, and grazed or harvested for hay silage or pasture.

(2) Livestock Drought Assistance Program

- a maximum of $60 per head on breeding herds, based on two payments, two-thirds on the July 1/88 inventory and one-third on the April 1/89 inventory;
- boundaries were not specified as all payments were based on 1988 Forage Insurance Program data.

The program was administered jointly between Alberta Agriculture, Alberta Hail and Crop Insurance Corporation and the Prairie Farm Rehabilitation Administration. Animal Industry Division handled the program for Alberta Agriculture.

Under the Greenfeed Incentive Program, 4,800 applications covering 550,000 acres were received. Payments made totalled $8,000,000 of which Alberta's share was $4,000,000.

Based on field inspection data, the following is an estimate of the forage produced by this program:

Hay	=	360,000 tonnes
Silage	=	120,000 tonnes
Pasture	=	220,000 tonnes
Total		692,000 tonnes

A total of 13,820 applications were approved under the Livestock Drought Assistance Program, covering 1.2 million animals. Total payments under this program were just over $36 million of which Alberta's share was $18 million.